ITEA 2

# Magazine

SEPTEMBER 2013 • NO. 16

## Software innovation boosting high-tech employment and industry

Co-summit 2013 in Stockholm

## A seat at the top table

Focus on Norway

## Digital Cinema

ITEA 2 success story

ITEA 2

INFORMATION TECHNOLOGY FOR EUROPEAN ADVANCEMENT

European leadership in Software-intensive Systems and Services – www.itea2.org

ITEA 2 is a EUREKA strategic ICT Cluster programme

## Content



## Colophon

ITEA 2
INFORMATION TECHNOLOGY FOR EUROPEAN ADVANCEMENT


ITEA 2 (Information Technology for European Advancement) is Europe's premier industry-driven co operative programme for pre-competitive R&D in Software-intensive Systems and Services (SiSS).

As a EUREKA Cluster programme, ITEA 2 stimulates and supports projects that will give European industry a leading edge in the area of SiSS.

**M** – ITEA 2 Magazine is published three times per year by the ITEA 2 Office. Its aim is to keep the ITEA 2 community around the ITEA 2 projects updated about the ITEA 2 programme status and progress, achievements, projects and events.

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Submissions: The ITEA 2 Office is interested in receiving news or events linked to the ITEA 2 programme, its projects or in general: R&D in the Software-intensive Systems and Services field. Please submit your information to communications@itea2.org.

Opinions expressed in the M – ITEA 2 Magazine do not necessarily reflect those of the organisation.

Special thanks to all contributors to this issue of the M – ITEA 2 Magazine.

## Editorial

The ITEA programme aims to support the competitiveness of industry and well-being of society with innovations in software-intensive systems and services. With 15 years of experience, it is based on a strong community, trusted relationships between industry and public authorities and efficient, well-established processes. But in a period of 15 years the world and our environment have undergone many changes, for example, economic, political, social and cultural. Thus, the challenge is to push for improvements in a changing environment while building on the existing strengths in the ITEA community.

In my opinion, this challenge is the main theme in the implementation of ITEA 3. That is the reason that we have introduced an explicit process based on Key Performance Indicators to be able to share and agree our improvement priorities between our ITEA management bodies, the Public Authorities and the operations in the office. As a result, the time it takes to get from a project idea to a running project is now the focus of all the respective parties. With the support of the Public Authorities we agreed to shorten this duration substantially in the transition to ITEA 3.

Building on the concept of the ITEA Roadmap books, of which three releases have been published during the lifetime of ITEA and ITEA 2, we have developed for ITEA 3 a 'Living Roadmap' describing the state-of-the-art and the technological challenges based on documents resulting from running projects. The ITEA Living Roadmap was released through the ITEA Community website in March 2013 around the PO event and has already been used 4000 times by 200 different members of our community. I recommend reading Philippe's article on the IMPONET state-of-the-art document.

Another example of building on strengths is the interest to participate in ITEA 2 Call 8. The previous issue already reported on the record number of participants at the PO event in Istanbul. In the newsletter published in July, you may also have noticed the significant increase in Call 8 POs compared to Calls 6 and 7.

Finally, a few words on the 2013 Co-summit to be held for the first time in Stockholm. It is already the sixth edition of our main event organised with ARTEMIS and this year's theme is "Software innovation: boosting high-tech employment and industry". We will again have a strong programme with, naturally, some clear Swedish elements, but also an update of our High-level vision ITEA ARTEMIS 2030 that adds more quantitative data on the importance of software innovation. And, of course, we are also preparing this year for a strong exhibition, with new options for the projects to present themselves in themes by means of, for example, a guided tour of a proposed theme and speaker's corners. In this way we hope to make the exhibition even more attractive by putting the projects, the teams and the people in the spotlight of the event.

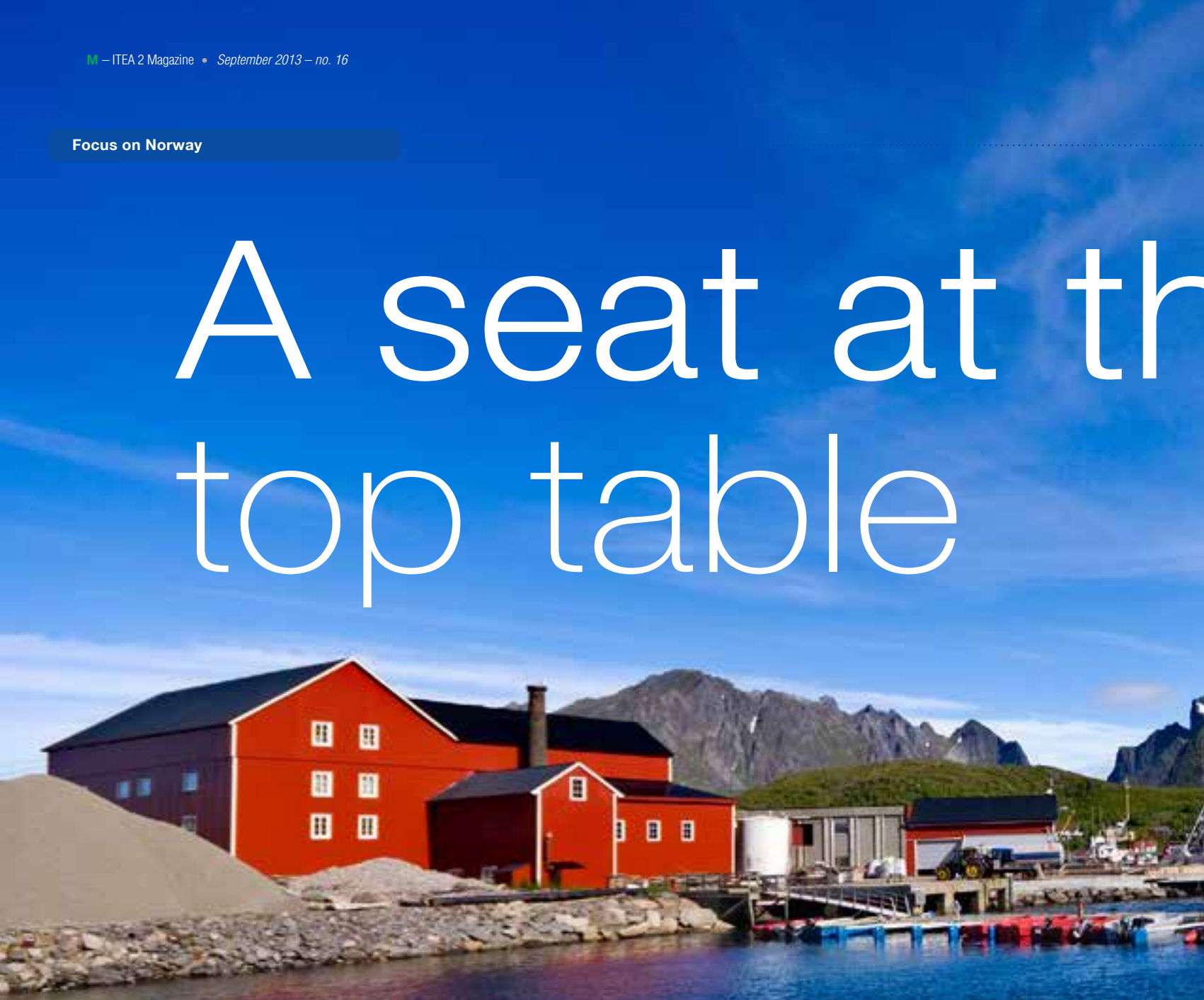
Projects, people and results are always at the heart of ITEA, and that should be clearly reflected in the contents of this magazine as well. We hope you like our selection for this issue and that you enjoy reading it!

Fopke Klok

**Fopke Klok**
*ITEA 2 Office Director*

**Focus on Norway**

# A seat at th top table



"ICT is one of the larger sectors in Norway and is important from the perspective of our social welfare and industrial competitiveness. And within the Norwegian industrial sector the role of software is a vital one." Tron Espeli is a special advisor in the Division for innovation at the Research Council of Norway. His special responsibility centres on ICT and user-driven, research-based innovation. Here he looks at the role of ICT, especially the software and software-intensive sector, in Norway.

# ne

Norway's industrial landscape is dominated by energy, offshore, seafood and maritime, with the environment as well as public services also key areas. ICT takes a large slice of the industry pie as a sector in itself and as a service component for these other sectors whose systems are becoming increasingly more sophisticated. The importance of research in ICT is unquestionable but to settle on the priorities is no easy matter for a relatively small country like Norway. While Norway's research agenda is quite similar to that of Horizon 2020 and national programmes around Europe, the focus lies more on the software and service aspects of ICT, also related to the country's industrial context.

**RESEARCH INCENTIVES**

A white paper presented in June by the Minister of Trade and Industry, the ICT sector was recognised as essential for industrial competitiveness, business development and social welfare. This signal was very much welcomed by Norway's ICT sector. While the software industry is not the subject or object of any specific promotion – government policy is basically industry-neutral – the software sector nevertheless benefits from the attention given to those areas that are regarded as key to the Norwegian economy, such as natural resource based industries in the energy, offshore and seafood sector. In respect to equity funding, start-ups, export financing and research support schemes, it is clear that the software industry is climbing up the agenda ladder. "Until a decade or so ago, public support schemes focused on traditional industries, but since the advent of the internet and an increasingly software-dependent industry and service sector, Norway's software industry has had a significant share of the expansion in start-ups and fast-growing SMEs, a trend that is continuing today."

The software-intensive industry, SMEs in particular, benefited from the introduction about ten years ago of a tax incentive scheme (managed by the Research Council of Norway). Statistics bear this out as they show much more R&D spending in the software industry in relative terms than among other industries in Norway. Due to the importance of ICT in the development of public services and administration, the software sector also benefits from a specific funding scheme for projects involving public-private partnerships. This support scheme is managed by the organisation Innovation Norway that also contributes to the progress of the software sector by providing support schemes for start-ups, internationalisation and export etc. Software companies can also benefit from the services of the government-funded investment company Investinor AS, which invests venture capital in internationally oriented and competitive Norwegian companies in their early growth and expansion stages.

**FUNDING ACADEMIC AND INDUSTRIAL RESEARCH**

Apart from the schemes mentioned above, the Research Council of Norway is actually the only Norwegian government funding agency for research, whether academic or industrial. Its innovation division funds projects in companies directly as well as projects in research institutes and universities where companies are research partners and, in many instances, co-sponsor that research. One important funding scheme is for R&D projects designed to support business innovation needs, where funding is channelled directly to the companies who champion the projects. This funding scheme is applied for involvement in EUREKA projects, in general, and also for the ITEA programme. The scheme is available to any business innovation topic (as long as R&D is necessary for the implementation), and thus has a flexibility that fits well with the versatility of the software sector. The Research Council of Norway also operates some thematic research programmes. "In fact, we are just coming to the end of one such programme in the ICT domain, where key priorities very much overlapped with the ITEA approach. We are now planning a new ICT research programme that will also include industrial research and schemes to support cooperation between industry and research institutions. Of course, industry has a very important voice in deciding thematic priorities in this programme."

**EUREKA CHAIRMANSHIP**

"Software engineering in general, validation of critical software and safety of business-critical systems and infrastructures will continue to head the agenda along with information society topics. A good basis for synergy between projects emerging from calls at the national level and calls in the European Framework programme or in ITEA is considered particularly important. Norwegian involvement in ITEA projects will rely on the same funding source as national calls – there is no dedicated funding budget for EUREKA clusters." For Norwegian businesses, EUREKA is about finding and collaborating with partners in other European countries; combining expertise and, critically, opening up new markets for the eventual product of the R&D. The important role of EUREKA in enhancing the performance of Norwegian industry is underlined by the Norwegian chairmanship of EUREKA for the coming 12 months.

Kristin Danielsen is the chair of Norway's EUREKA team, headed by the Research Council of Norway, whose aim is to strengthen the position of EUREKA in the European Research Area by ensuring a stronger focus on industry as a whole, getting the next phase of the Eurostars SME joint programme off to a flying start and securing optimum positioning for the EUREKA clusters as well as looking to explore ways of cooperating with partners outside Europe for mutual benefit. The Norwegian chairmanship will also develop, in collaboration with the network, a new EUREKA strategic roadmap for the period 2014 – 2018.

**ALLIANCES FOR GROWTH**

The importance of innovative SMEs in the industrial landscape is also recognised in Norway, in the same way as all over Europe. "Several Norwegian software companies are successful in niche application domains, reaching out also to a significant international customer base. In the software service domain the growth path of SMEs is more complex. If they become successful, they will easily catch the eye of major international companies, and may see no better choice than becoming a part of the make-up of these major players."

With many SMEs dotting the landscape, the problem may arise that growth opportunities become restricted. Building alliances through R&D project cooperation can provide a way through such obstacles. And this is where programmes like ITEA can be important in terms of creating and joining networks for some of these companies. "The Research Council of Norway tries to do its bit by putting an emphasis on the business scenarios to help SMEs pursue the path of commercialisation. We also assist in the preparatory phase of collaboration in both the European Framework and EUREKA context." This includes funding over a period of six to twelve months to enable companies to establish the project concept and the partnerships necessary to be successful in these international programmes.

> Programmes like ITEA, which put business results at the forefront, are important to translate research cooperation into competitiveness.
>
> *Tron Espeli, The Research Council of Norway*

"While it is not a part of our funding support as such, we do monitor the internationalisation or commercialisation track during the course of the projects. We challenge the recipients of the funding to demonstrate and update where they stand as the research and technology development progress. So we try to keep the finger on the pulse and encourage results to materialise sooner rather than later. The whole basis for our support schemes is that everything should feed back into the economy. The same goes for academic research in ICT – it has to demonstrate beneficial relevance to our economy and society."

**CONNECTED TO COMPETE**

"To be able to compete in the ICT arena with the US and the Far East I think we need to pursue schemes that widen European cooperation. Programmes like ITEA, which put business results at the forefront, are important to translate research cooperation into competitiveness. The trend towards open collaboration and cooperation, with open platforms, resource and knowledge sharing, can only be good for the future. It has become pretty evident that you can't do things all on your own anymore. You have to be connected in many respects. We need to have the networks, competence and business climate to encourage this sector and thereby ensure that we keep our seat at the top table."

**FOR MORE INFORMATION**

www.forskningsradet.no

# Aiming to stay at the forefront of technology

As Norway's premier IT organisation with more than 350 company members, all within the ICT industry, ICT-Norway aims to boost growth in the ICT sector. In an effort to actively enable creativity and innovation as well as strengthen the competitiveness in the ICT sector, ICT-Norway organises and takes part in national and international R&D projects in cooperation with universities, research institutes and member companies.

Hans Petter Dahle is a technology expert and manager with extensive experience of both the public and the private ICT sectors as well as leading European and Norwegian research projects, having worked with European technology companies such as ABB, Nokia, Philips, Siemens and Thales. As a 'link' between ICT-Norway and many of the companies participating in national and international R&D projects, he is well placed to talk about the impact of such participation on the Norwegian ICT industry, Norway's third largest industry measured in revenues totalling €25 billion and a workforce of 74,000 employees (2012).

As an enabler for restructuring and for new employment, Norwegian technology is at the forefront of global industry. This can be exemplified by companies like FastSearch (now MS Bing), the international web browser company Opera, Tandberg (now Cisco), Trolltech (Qt software development kit) and Telenor whose prominence in ICT field puts Norwegian technology at the forefront of global industry. Indeed, for the past ten to fifteen years software has played a vital role in the changing needs of the ICT industry and also in terms of value creation.

The ICT industry is fundamental in the development of new products and their adoption in the business community, with 45 per cent of all industry's operating costs for research and development and 72 per cent of service industries' operating costs on research and development related to ICT. "Norwegians are also generally very keen to use new technology where this improves their quality of life. Of course, our lives already have a powerful ICT and software focus," Hans-Petter suggests. "After all, who doesn't bank online, send in the dreaded tax returns digitally, app their way through the day? Norway is a country that is ready to embrace new developments."

One of the underlying reasons for Norwegian industry to become involved in ITEA and the EUREKA clusters is to enable companies to solve problems that they cannot solve on their own. For example, ITEA provides an open-sharing environment where companies with similar problems are able to pool resources in a project and lend their own expertise and knowledge to achieve a better or more significant result than would be possible on a standalone basis. "What's more," Hans-Petter Dahle points out, "the network opportunities often offer additional business opportunities. Take, for example, the participation of SuperOffice CRM, the leading CRM software provider in Europe, in the ITEA project OSIRIS." ICT-Norway was instrumental in enabling this participation in the Open Source Infrastructure for Run-time Integration of Services project – to give the acronym its full name – that resulted in both technical and commercial success.

OSRIS demonstrated that investment in a single open-source platform can benefit service systems and vertical application in multiple domains. In the OSIRIS project the company was responsible for prototyping client software for mobile phones. Through involvement in the project, SuperOffice CRM gained the understanding and knowledge that enabled the company to develop a new product from scratch – SuperOffice Pocket CRM. This product now runs on both tablets and mobile devices under various operating systems (Windows, IOS, and Android) and in excess of 20 000 licences of this new product have been sold in Europe to date.

Ultimately, then, the real benefit of ICT-Norway's involvement in ITEA projects becomes manifest in the chance to be part of addressing and overcoming major technology challenges in an open, give-and-take environment. "It's a win-win situation" Hans-Petter Dahle concludes.

**FOR MORE INFORMATION**
www.ikt-norge.no

# CO-SUMMIT 2013

## 4 & 5 December
## Stockholm

The 2013 ITEA & ARTEMIS Co-summit will be held on 4 & 5 December in the Scandic Infra Business Center in Stockholm, Sweden. The 6th edition of the Co-summit, featuring international keynote speakers, a high level panel discussion, an inspiring project exhibition including speakers' corners fuelled by the project teams themselves, is dedicated to: 'Software innovation: boosting high-tech employment and industry'

# Software innovation: Boosting high-tech employment and industry

**THE ECONOMIC DIMENSION OF SOFTWARE INNOVATION**

In European industry, the employment situation is becoming more and more related to high-education jobs, for example in the fields of research, innovation, sustainable production, transportation, logistics and services. Software and software innovation play a dominant role in such areas. The ICT industry as well as ICT-enabled innovation in non-ICT industries and services make an increasingly important contribution to the growth of developed economies. Advanced automation is key to strengthening European manufacturing industries, enabling Europe to counter the employment shift to low-wage countries.

**A FIRST-HAND EXPERIENCE WITH EUROPEAN SOFTWARE INNOVATION!**

During the entire Co-summit, visitors will be able to roam around the project exhibition and share insights with key representatives from more than 80 leading European R&D&I projects. Both ITEA and ARTEMIS projects and their results will be showcased in terms of innovation, business impact and exploitation. This year, the exhibition will include a special focus area with projects related to the topic of 'Smart Cities', also highlighted during the plenary programme in the morning of day 1.

**THE PROGRAMME – DAY 1**

On Wednesday 4 December, the plenary conference programme will be opened by Daniel Johansson, State Secretary to the Swedish Minister for IT and Energy. Following this welcome address, two keynote speeches will then be given by:

- Sten Nordin, Commissioner of Finance, (Mayor) of Stockholm
- Ulf Wahlberg, VP Industry and Research Relations, Ericsson CTO-office; and

The plenary session in the morning will be concluded with a joint speech by Rudolf Haggenmüller, Chairman of ITEA 2, and Heinrich Daembkes, President of ARTEMIS Industry Association. They will give an exciting overview of the extension that was made to the High-level Vision ITEA-ARTEMIS 2030 document, detailing the economic impact of Digital Technology now and in the future.

During the afternoon of the first Co-summit day, ITEA and ARTEMIS projects are offered an even bigger platform in several speakers' corners set up in the exhibition area. Project representatives will have the opportunity to give a presentation or organise a project debate. Furthermore, featured projects will also be highlighted in themed guided tours of the exhibition. Be sure to check out this new exhibition feature!

**THE PROGRAMME – DAY 2**

The second Co-summit day, Thursday 5 December, will start with the family sessions of ITEA and ARTEMIS, including presentations on programme status and highlights. A focus of this day will also be the presentation of the ITEA Awards of Excellence that underline very successful projects with outstanding contributions to the ITEA programme. This year the ITEA awards of Excellence will focus on the key achievements for ITEA: 'Seizing the high grounds' (impact), Exploitation and Standardisation.

This year's winners are:

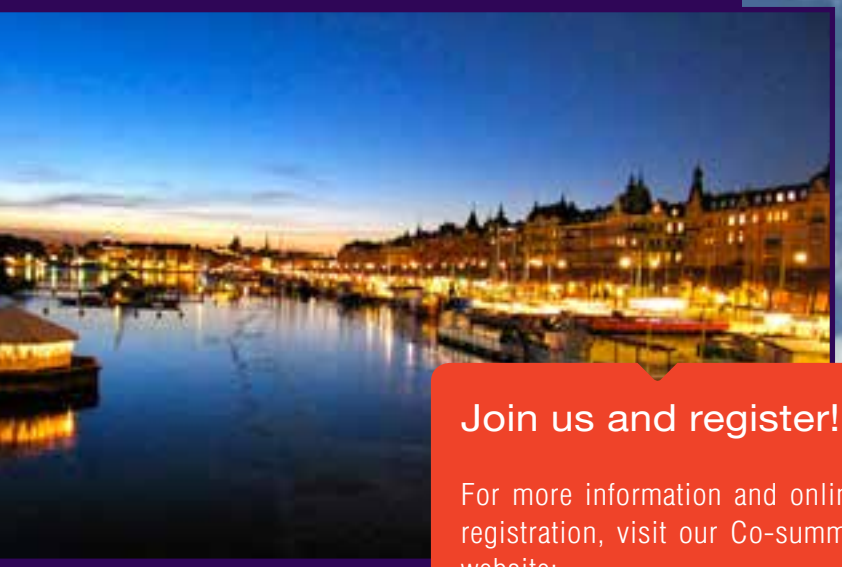
- IMPONET:
  Intelligent Monitoring of Power Networks – winner in the category 'Seizing the high ground';
- SUS:
  Smart Urban Spaces – winner in the category 'Exploitation';
- UsiXML:
  User interface design in multiple contexts of use – winner in the category 'Standardisation'.

# CO-SUMMIT 2013

## Software innovation: boosting high-tech employment and industry

In the afternoon a plenary panel session will be held on the Co-summit theme: 'Software innovation: boosting high-tech employment and industry', with high level speakers from industry and Public Authorities. The panel will be moderated by Christina Forsgård, founder & partner of the Finnish technology-focused public relations agency Netprofile.

The Co-summit will end with a joint Exhibition Award ceremony highlighting the 2 project teams that communicate the ambition, goals, and – if already possible – achievements of its project in the most comprehensible and vivid way during the 2013 exhibition.

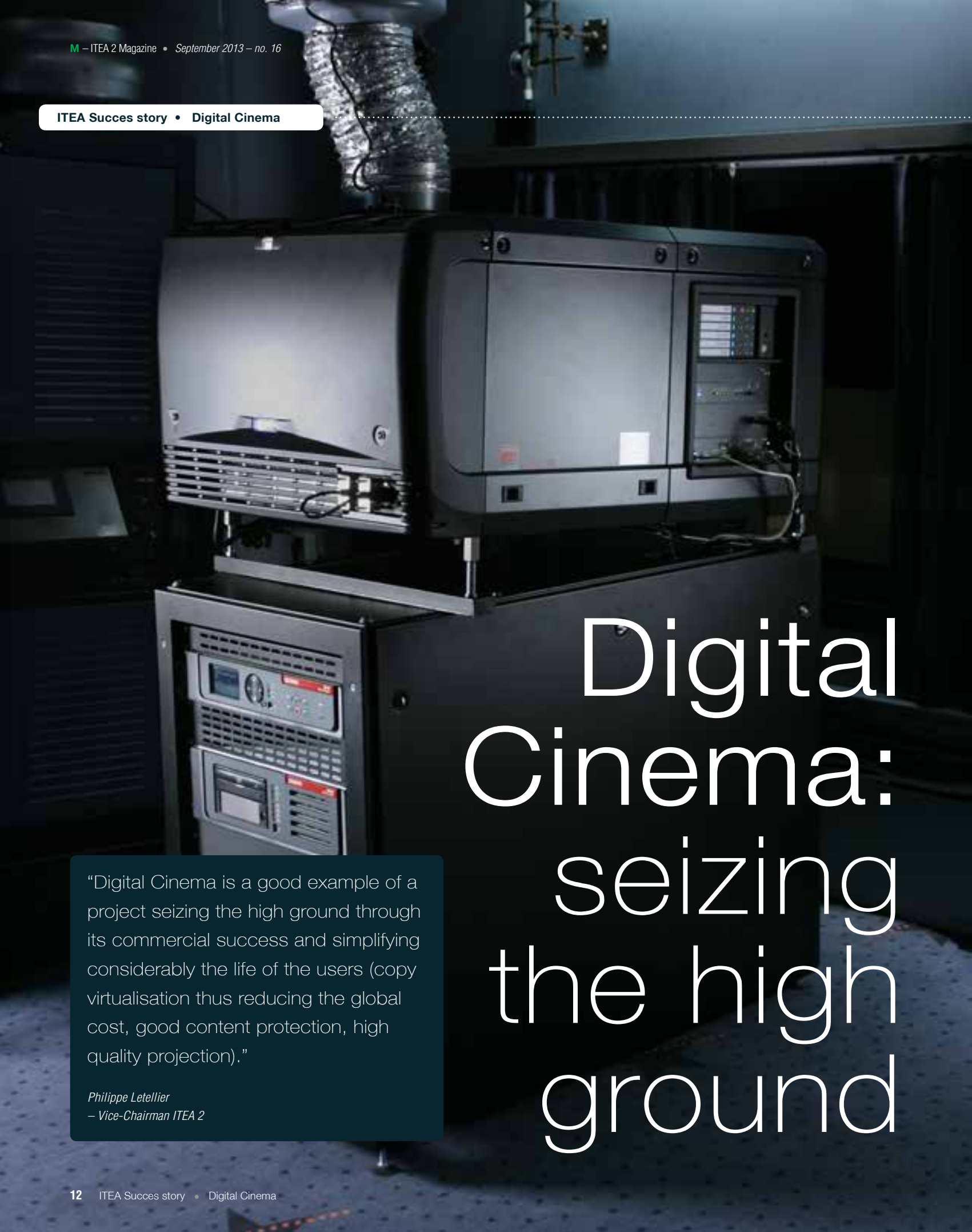



### Join us and register!

For more information and online registration, visit our Co-summit website:

**www.itea2.org/cosummit2013**

The registration deadline is 24 November *(subject to availability)*



# Digital Cinema: seizing the high ground

"Digital Cinema is a good example of a project seizing the high ground through its commercial success and simplifying considerably the life of the users (copy virtualisation thus reducing the global cost, good content protection, high quality projection)."

*Philippe Letellier*
*– Vice-Chairman ITEA 2*

Ten years ago, from January 2001 until June 2003, Barco, with the support of the Flemish Government Agency IWT, headed the ITEA project "Digital Cinema" to develop the key components for the transition of the movie industry from analogue 35mm film to digital technology.

The main innovation in this project centred on:

- Projectors:
  Barco was able to develop a Digital Cinema product family ranging from the first DP30 to the DP100 projector, which was Barco's first 2K digital projector to support the DCI standard drafted at the time.

- Communicator software:
  This software allows post-production houses to build customised projector profiles, with full access to all the projector parameters including an integrated 3D colour look-up table. Cinema Exhibitor's technical staff can remotely monitor, set up and upgrade a suite of projectors.

- Alternative Content interfaces:
  Digital projectors enable new applications for Cinema Exhibitors: B2B presentations, live events, opera, gaming... It was therefore important to offer an optional interface (Barco's ACSAR) to connect and format any type of video or PC signal, with fully integrated control to enable single button operation of the projector and the interface.

- Subtitling:
  Projectors were outfitted with the capability to render and overlay subtitles internally. Subtitles were delivered as independent XML files enabling easy localisation of a single digital distribution master.

The completion of this project kicked-off 10 years of digital cinema pioneering for Barco. The result today is:

- Nearly 40,000 Barco projectors deployed globally enchanting 50 million moviegoers everyday
- Undisputed global market leadership for Barco in Digital Cinema, including more than 10,000 screens equipped in both China and the US.
- Impressive growth realised, year-on-year from 2011 to 2012 standing at 50% (e.g., China 15%, India 60%, Latin America >400%!).

The business success of this project was such that some partners merged after the completion of the project to better access the market (Octalis acquired by Thomson, Barco acquiring some activities of XDC (previously part of EVS).

"The stimulation and support of ITEA and IWT helped Barco to develop, already in 2001-2002, key innovations that laid the foundation for the huge success of today's Digital Cinema business."

*Jan Willem Brands*
*- CTO Barco N.V.*

**BELGIUM**
Barco N.V.: *Digital Projection*
EVS Digital Cinema: later independent as XDC, some activities later acquired by Barco: *Compression, Distribution and Playout*
Octalis S.A: Octalis, later acquired by Thomson: *Digital Rights Management*

**FINLAND**
Sublime Software: Digital Subtitling and Interactivity

**GERMANY**
Kinoton GmbH: *Theatre Automation*

**UNITED KINGDOM**
Computer Film Company: now Filmlight: *Digital Post Production*
University of Derby

**NETHERLANDS**
Stage Accompany
Philips Research: *Watermarking*

**Calendar**

30 SEPTEMBER
## AMALTHEA – PLATFORM FOR EMBEDDED MULTI-CORE SYSTEMS - DEVELOPER PREVIEW

The AMALTHEA proj ect is developing a development environment platform for embedded multi-core systems. It will publish its first version of results in the Eclipse labs as a preview version: http://code.google.com/a/eclipselabs.org/p/eclipse-auto-iwg/wiki/AMALTHEA

30 SEPT- 2 OCT
## EUROPEAN INNOVATION SUMMIT

Brussels, Belgium

www.knowledge4innovation.eu/5th-european-innovation-summit-2013

17-18 OCTOBER
## ACQUEAU 2ND WORKSHOP "WATER BEYOND EUROPE"

Paris, France

▷ www.acqueau.eu

6-8 NOVEMBER 2013
## ICT 2013 - CREATE, CONNECT, GROW

Vilnius, Lithuania

▷ www.ec.europa.eu/digital-agenda/en/ict-2013

7 NOVEMBER 2013
## BITS&CHIPS 2013 EMBEDDED SYSTEMS

's-Hertogenbosch, the Netherlands

▷ www.embedded-systemen.nl

27-28 NOVEMBER 2013
## EUROPEAN NANOELECTRONICS FORUM 2013

Barcelona, Spain

▷ www.nanoelectronicsforum.org

4-5 DECEMBER 2013
## CO-SUMMIT

Stockholm, Sweden

CO-SUMMIT 2013

Software innovation: boosting high-tech employment and industry



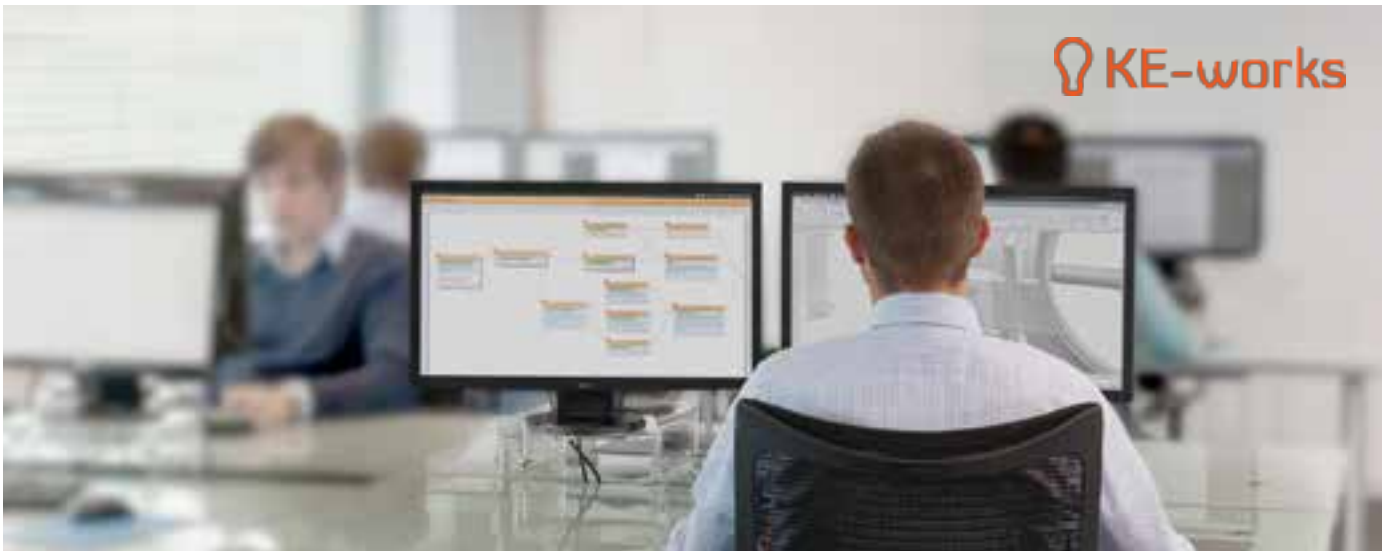
# First acoustic equipment for screening mycotoxins in cereals

DON (deoxynivalenol) is a toxic metabolite that occurs naturally worldwide and is produced by several species of filamentus fungi of the genus Fusarium. It is estimated that about a quarter of the world's food crops (mainly cereals) are affected by this mycotoxin. A lack of awareness about the quality, health and safety risks related to this mycotoxin, along with inadequate effective control, has led to numerous health problems worldwide. Since at least 60% of the food and feed produced in the world originates from cereal crops, one can imagine the magnitude of the problem.

In the framework of EUREKA ITEA 2 project ACOUSTICS the first portable acoustic spectrometer has been developed at Kaunas University of Technology in Lithuania. This non-invasive technique screens fast DON in contaminated cereal grains and was shown at the ITEA & ARTEMIS Co-summit 2012, on 30 & 31 October in Paris, France. Monitoring of the cereal harvest will take place this autumn in the Ukraine as well as in Lithuania.

The implementation of this screening technology by (groups of) farmers at the point of harvest will reduce losses and minimise the negative economic consequences of this mycotoxin, with the elimination rate of contaminated grain improved and public health protected as a result. The introduction of this technology supports the efforts of FAO, WHO and the EU to combat malnutrition by keeping food losses at bay. The acoustic technology in food and non-food also lends itself perfectly to other fields such as texture & structure measurement, sensory science, shelf-life of bread, novel processed aerated foods and extraction speed (or infusion) of tea, where porosity of matter plays an important role.

# 3D-Testbench spin-off: KE-works




A success story of the ITEA2 project 3D-Testbench is KE-works.

KE-works was founded in 2008 to exploit the innovations in the field of design automation resulting out of 3D-Testbench. The project's goal was to develop a virtual environment linking multiple engineering tools for collaboration in design analysis and validation of complex products. A prototype of the vision of a highly automated design and analysis suite for aircraft wire harness design, called 3D-Testbench was developed as a use case. This was based on new methods and technologies such as multidisciplinary design optimisation (MDO) and knowledge-based engineering (KBE). The Dutch-Belgian consortium was composed of Fokker Elmo, LMS, Barco, Vrije Universiteit Brussel, and Delft University of Technology. KE-works is a spin-out of the latter and is currently based in the Netherlands.

KE-works took flight in 2009 with its launching customer Fokker Elmo in a joint exploitation of the 3D-testbench innovations developed for wire harness design, yielding 90% task cycle time reduction from weeks to hours. While the results were magnificent, it also surfaced that design automation requires a drastic improvement of information management in engineering. Today, due to nature of engineering, low quality of information means that experts spend 30% to 40% of their time searching for the right information. A solution for this problem, not addressed by existing tools and methods, is a prerequisite to leverage the full benefits of automation in design. This sparked the development of KE-chain in 2010, KE-works smart workflow management solution.

Innovation is the backbone of KE-works, driven by the vision of a highly automated engineering process. The innovations of 3D-Testbench have been succeeded by various national and European funded R&D projects, such as the FP7 project 'iProd' (www.iprod-project.eu) whose goal is to prototype a general-purpose framework for design automation that can be applied to the aerospace, automotive and home appliance industries. This gave KE-works the opportunity to test KE-chain for a wide range of applications and proved that a drastic improvement of information management in engineering is a shared problem. Today, KE-chain has boosted information reuse by 44% and reduced the cycle time of changes by 49%. KE-works is currently implementing the third KE-chain application and more are in preparation. The clear call to manufacturing is: *Let's innovate together!*

KE-works helps companies to optimise their product development process. In many manufacturing companies there are highly repetitive processes where a lot of time, money and energy are wasted on tasks that can be easily automated. Instead of constantly re-inventing the wheel, our clients can eliminate waste in their engineering process and achieve improvements across the board with the help of their smart workflow solution KE-chain. All the engineering information, which had been spread over different departments and stored in the minds of experts, in binders and in computer files, is now neatly available to all stakeholders.

**FOR MORE INFORMATION**

www.itea2.org/project/index/view/?project=208
www.ke-works.com

# State-of-the-Art in ITEA takes the technology forward into the market

*Written by Philippe Letellier, ITEA 2 Vice-Chairman*

The ITEA 2 IMPONET project delivers a high-quality market State-of-the-Art (SotA) document on smart electricity.

Smart electricity is actually a high priority societal challenge because electricity is at the heart of growth in a developed society. The rising demand and consequently increasing supply problems in recent years have only served to highlight shortcomings in the management and maintenance of electrical networks.

The IMPONET project emphasised the need for real-time management throughout the electricity grid to ensure the stability of the whole electrical system. In the SotA, reference is made to the Leonardo Energy Power Quality report 2008 which stated that "poor power quality costs European business more than €150 billion a year." The growth of this need as well as the required power quality level (reliability, stability) represent a great challenge for our society. The solution is the systematic exploitation of information from a huge number of electronic devices involved in the control and protection of power systems along all the different electricity grids.

IMPONET calls for the standardisation of power quality monitoring software to minimise the costs of power transmission/distribution and to reduce the costs and time involved in analysing faults. The monitoring targets are:

- internal engineering and maintenance
- power quality assessment
- service level agreement data for the public

Smart grid systems open the way to a future where service providers propose real-time pricing and energy time-slot registration paradigms. With a demand in industry for power quality as a significant factor, it becomes vital to establish a method to regulate and thus compensate deficiencies of power supply or penalise disruption. What is noticeable in other markets (gas, water, waste ...) is that the utility companies are also demanding such integrated systems.

The IMPONET market SotA document describes the future deployment of smart metering in different European countries as well as the specific regulations to stimulate the deployment of advanced metering to support efficiency and sustainability in their electricity grids. In fact, the data coverage goes beyond Europe and even takes on a global dimension. Furthermore, the IMPONET project stresses the European Commission's Energy-efficient Buildings (EeB) initiative, which is a Public Private Partnership (PPP), and its multi-annual roadmap that defines the preliminary list of research priorities. For this EeB initiative the EEC will devote €1 billion in the period 2010-2013 to help the European construction sector to reduce its energy footprint and $CO_2$ emissions related to new and renovated buildings. With electricity in both residential and industrial areas the main energy source, this initiative will have a strong impact on IMPONET. The European Construction Technology Platform (ECTP) is also mentioned as a key reference body.

We must say that the IMPONET project has actually pushed the State-of-the-Art envelope with its real-time architecture for huge command and control data flows. I invite all of you to read in detail this market analysis by the IMPONET consortium. It has been a central thread throughout the project. The document is in the ITEA Living Roadmap (https://community.itea2.org/roadmap) and this SotA database contains a number of selected, high-quality documents. For access, just follow the registration instructions.

ITEA is very keen to gather technical State-of-the-Art documents from its different projects to share our collective understanding of the software pre-eminent system as well as boost collective understanding of the markets, as in this IMPONET State-of-the-Art.

ITEA is not only the programme dedicated to creating the future but also to understanding the main trends for the future.

**FOR MORE INFORMATION**
www.innovationenergy.org/imponet

# Open source and the open air

Gaël Blondelle is a computer science graduate of the University of Nancy. His career began at the telecommunication giant Alcatel, near Strasbourg, where he worked for several years after graduating. He then moved to a consulting firm where his main focus was Java software programming. The two pivotal moments in his career were encountered during his early engineering studies when he developed a fascination with IT and later, in 2003, when he discovered open source as part of the team involved in deploying the Linux system in the telecom field, a rare occurrence at the time. He was so convinced by open source technology that he co-founded the company Petals Link in 2004. Its aim was to provide "market-leading expertise in enterprise application integration and application data sharing, enabling organisations to design, deploy and manage flexible, agile and interoperable information systems and technologies". However, Gaël left the company he co-founded in search of a new career challenge. That's when he joined OBEO, a key player in the Eclipse platform, as OPEES project manager. Finally, Gaël recently joined the Eclipse Foundation to carry on with the OPEES project results.

### AN EXCITING TIME

"What I like about software development is that it is such a young industry. There is still so much to do in every domain. The landscape for innovation is very large. Being in open source, I feel I am in the right place at the right time. We have already had the IT revolution and now there is the 'openness' revolution, and I'm right in the heart of that. If you ask me what the next revolution will be, I think it is likely to be open hardware. I am in touch with the Babylonware[1] project and they are creating an ecosystem around open hardware for embedded systems. That is the next big step in my opinion."

### OPEES AND POLARSYS

Gaël's involvement in research projects actually began when he was working for his own company and in some respects, this gave him a bit of an edge. "Research projects have a very important role to play for start-ups in Europe. But one of the problems remains the issue of transferring the results of research into the actual products of start-ups and SMEs." It was only after his move to OBEO, where he was invited to contribute his particular expertise, that he became involved in the ITEA 2 OPEES project, Open Platform for the Engineering of Embedded Systems. Gaël's specific expertise concerned the systems and open-source components, although he admits to not being an expert in embedded systems. Conscious of the need to address the issue of transferring knowledge into tangible products, and with his own business experience, Gaël recalls that this transfer component was one of the real achievements of the OPEES project: creating long-term support for a business-oriented open-source framework and community driven by end users. Among the other key outcomes of this project was the open and visible PolarSys[2] structure, created in collaboration with the Eclipse Foundation. PolarSys allows not only a European service industry and a common vision and roadmap to emerge, but it also enables the results to be extended and shared through an open technical repository of tools/components in the domain of embedded systems/software engineering. Ready, therefore, for use.

### COLLABORATION AND RESULTS

A key aspect of the projects in which Gaël has been involved is collaboration. It was already apparent to him during his Computer Science studies how interesting and vital collaboration is, specifically sharing knowledge, views, perspectives and insights. "The mix of academics, SMEs and large companies is one of the benefits of working in the kinds of projects that come under the ITEA flag and is also one of the factors that helps to create ecosystems like PolarSys." In his new job, Gaël intends to be more involved in ITEA projects. He considers them as a catalyst for disseminating information and knowledge about open source throughout Europe. And the valuable aspect of the ITEA approach, apart from the research and vital collaboration, is the focus on industrial results. "Industry-driven research, that's the key."

### GETTING AWAY FROM IT ALL

In his spare time, Gaël does some horse-riding with his daughter. For years, he used to take her to the stables and basically had to 'hang around' until she was done. And a year ago he thought: "Well, why not join her". His main goal is to be able to take part in show-jumping competitions. Clearly, the sport has captured his imagination. He also enjoys the complete switch from his normal day-to-day job – out in the open air rather than open source.

1 *www.babylonware.org*
2 *www.polarsys.org*

**Innovation Reports**

**DIAMONDS**
(ITEA 2 ~ 09018)

Security-testing regime for interconnected software-based systems and networks.

**ISN**
(ITEA 2 ~ 09034)

Accelerating the use of standardised wireless technologies for systems monitoring and management.

**DIAMONDS**
(ITEA 2 09018)

Ina Schieferdecker, Fraunhofer FOKUS, Germany

# Security-testing regime for interconnected software-based systems and networks

Current security testing is based mainly on audits of processes, systems and networks but this still lacks generic security models and systematic testing approaches that allow risk-oriented semi-automated analysis. The basic aim of the ITEA 2 DIAMONDS project was to produce an effective methodology capable of strengthening the practices of security testing commonly used in computer science and various industrial areas.

Nowadays open networks are taken for granted yet this continuous interconnection and data-sharing are vulnerable to a growing number of security threats from both internal and external sources. In sectors such as transport with train control systems, medical patient care, automotive with car-to-infrastructure communications and mobile telecommunications, there are safety-critical implications. Failures can endanger human lives and the environment, implying serious damage to industrial and social infrastructures, jeopardising confidentiality and privacy, or undermine the viability of whole business sectors. It is common knowledge that the security of most systems is directly related to the quality of the underlying software – software defects lie at the root of over 90% of software security incidents.

**MODEL-BASED TESTING FOR SECURITY WEAKNESSES**

Against this background, DIAMONDS developed a series of systematic, model-based risk analysis, test and monitoring approaches for the security testing of software systems with advanced model-based security-testing methods enabling the early identification of design vulnerabilities and underpinning a focus on the efficient testing of security aspects.

The consortium focused on the particular issue of testing networked systems for susceptibility to malice, error or mischance, helping to build trust in such systems by enabling them to demonstrate their robustness and fault-tolerance in the face of such attacks. Security issues with industrial-scale networked systems, as in banking, smart cards, information technology, software-defined radio and defence electronics, are a high priority. By deriving common principles and methods, efficient security testing methods relevant to a swathe of industries can be derived. The DIAMONDS security-test methodology is adaptable to different domain security standards, enables risk-analysis oriented test generation and underpins risk assessments by evaluation of test results. This industrial-scale European security-test methodology has been demonstrated on security-critical systems in a variety of application domains.

**INNOVATIONS FOR FORMAL SECURITY TESTING**

The four main security-testing method innovations

developed are focused on building a 'pre-standard' for model-based security testing to represent the enabling technology necessary for the introduction of formal security testing in industry:

- Advanced model-based security testing methods which combine different techniques to obtain improved results applicable to multi-domain security
- Development of autonomous testing techniques based on automatic monitoring to improve the resilience of dynamically evolving systems
- Pre-standardisation work on multi-domain security test methodologies and test patterns, allowing DIAMONDS to offer interoperable security test techniques and tools
- An open-source platform for security-test tool integration to provide a common platform and single user interface for various test tools, as well as a single tracing and reporting interface.

Through these innovations DIAMONDS will strengthen the practices of security testing, stimulate a wider range of use of security testing in projects in different domains and help improve the quality, with respect to security, of the systems developed, reducing the security risks and the risk-related costs during operation. Losses incurred are due not only to the consequences of a security breach but also to the effort needed to repair the deployed systems and the loss of confidence in the systems concerned (e.g. drop in vendor stock values). Productivity will also be improved by accelerating the testing process, increasing the confidence in a system when it is modified and eliminating the repetitive tasks needed when manually testing the resilience of a system.

**CASE STUDIES**

Key to quantifying the success of the DIAMONDS innovations and steering the project came in the shape of use cases through questionnaires and interviews with the persons involved. The criteria included estimation of cost savings, productivity gains, trust improvement and overall impact of the methods introduced. The information gathered was analysed and conclusions were drawn to evaluate the work and provide feedback on the technical work packages. Iterating this process throughout the project helped the methods and tools developed for the case study needs to be constantly improved and adapted. In order to guarantee that the project remained innovative with respect to other advances in the security testing area, the partners maintained a state-of-the-art, addressing and changing objectives as necessary. In addition, DIAMONDS developed the Security Testing Improvement Profile (STIP) approach, that is dedicated to assess security testing processes. The STIP approach has been used to evaluate all of the DIAMONDS case studies. It demonstrated substantial improvements in all case studies due to the innovations of the project.


Among the case studies in such domains as banking, radio protocol, automotive, telecom and industrial automation were risk-based security testing, advanced fuzz testing, model-based behavioural fuzzing active testing, integration of model-based test generation and monitoring, autonomous testing methods, and open-source tools for security testing. Furthermore, by developing an open-source platform for security test tool integration, DIAMONDS provides a common platform, giving the user a single-user interface towards various test tools as well as a single tracing and reporting interface to have concise report from the various tools. This platform will support the integration of testing modules from various vendors and the open-source community developed specifically for the platform as well as integration of existing tools. The platform is available for all security testing vendors and open-source community members as integration point for their tools.

As a result of this ITEA 2 project, developers will benefit by being able to test software for vulnerabilities and thus prevent their introduction to the software cycle in the first place; systems integrators, testers, software quality assurers and software buyers will be able to evaluate the quality of software before using it, process owners will be able to improve their security testing analysis and testing processes, and researchers will be able to investigate and establish new knowledge in systems testing.

**SUCCESSFUL EXPLOITATION**

The success of the DIAMONDS project, underlined by two successive achievement awards at the ITEA 2 & ARTEMIS Co-summits in 2011 and 2012, is evident in the exploitation of new commercial products including Codenomicon (new platform release, several fuzzing test suites), Montimage (Montimage Monitoring Core), Smartesting (security-requirements driven test generation), Testing Technologies (TTCN-3 Fuzz Testing Extensions) and Dornier Consulting (Atoms Security Testing Module). Furthermore, DIAMONDS generated open-source products and product updates, and FOKUS (Fuzzino, Tracebility Platform for RBST) as enabled the adoption of methods in the production environment (Giesecke & Devrient – CORAS, METSO – Network Hoover and Thales – combination of active & passive testing) along with new research projects such as FOKUS, SINTEF and Smartesting.

**A EUROPEAN GUARANTEE**

A formal security-testing regime for European software will benefit software designers, developers and vendors of all kinds. Rather than providing timely patches to 'buggy' software, developers will be able to find vulnerabilities before hackers exploit them. Above all, there is a growing need to evaluate software coming from unknown or little-known European sources for vulnerabilities, especially those which could allow malicious entities to penetrate systems or their connected networks. A European solution designed by European actors will present a certain standard and a certain guarantee to market actors and administrations around the world that wish to preserve their systems, their data privacy and their sovereignty.

**FOR MORE INFORMATION**

www.itea2-diamonds.org

**ISN**
(ITEA 2 09034)

Kris Steenhaut, Vrije Universiteit Brussel, Belgium

# Accelerating the use of standardised wireless technologies for systems monitoring and management

Use of autonomous wireless devices for monitoring and management is relatively recent. The most important limitation has been the absence of a wireless technology deployed at low-cost and with low-consumption devices. However, development of the IEEE 802.15.4 standard and use of open software for its implementation have resulted in an important evolution in the potential use of these technologies in different market areas such as industry, smart homes (domotics) and smart buildings, energy consumption/production and environmental monitoring.

Although Wireless Sensor Networks (WSNs) are now becoming well accepted in different application markets, there are several aspects that must be improved to enable future growth and consolidation such as the convergence of standardisation and technologies to offer wider and open solutions. With energy-efficient communications protocols integrated data processing and, in general, scalable solutions essential for WSN evolution, the ITEA 2 Interoperable Sensor Networks project, or ISN, sought to create a WSN-based open platform and to test and validate it in a selected set of vertical applications. The protocols already deployed are Constrained Application Protocol (CoAP), 6LowPAN and several Duty Cycled Medium Access control protocols. CoAP is an adaptation of HTTP application protocol and 6LowPAN is an adaptation of IPV6 internetworking protocol for constrained devices; MAC protocols for WSNs operate in a duty-cycled way and put the communication unit to sleep when no communication is needed.

Despite being a very small project in ITEA 2 terms – about a tenth of the normal project size – the ISN project has not only successfully created this first commercial co-application platform based on embedded IP/ web technologies for constrained devices but it also provides the opportunity for the results to be deployed and exploited.

**CHALLENGES …**

Based on experience developed in the ITEA ESNA project and emerging communications standards, ISN addressed a set of new, relevant technical challenges for sensor network application domains, such as interoperation with other systems and devices, improved co-existence mechanisms and management of data within and across networks, as well as quantitative performance-measurement techniques. The strong international consortium in the ISN involved high-tech industry with strong research support.

A major challenge for the deployment of systems lies in the multitude of proprietary communication protocols although the success of recent standards such as 6LoWPAN and CoAP pave the way for faster market growth. However, evolution in this field is dependent on technology being able to support and coexist with a number of communication protocols. This is why ISN focused on the development, use and evaluation of emerging WSN standards, addressing four specific objectives in the lifecycle of a wireless sensor network:

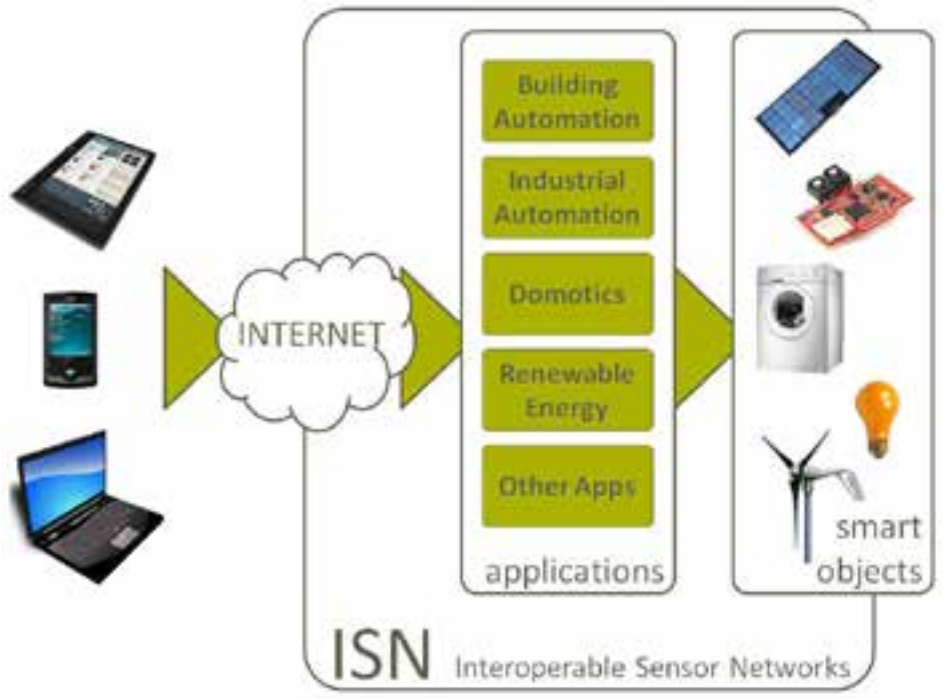
1. Simplifying applications development by refining and developing important building blocks such as communications stacks, operating systems, management tools and simulators;
2. Simplifying deployment and integration by implementing emerging WSN standards, mechanisms for testing network quality, creating integration tools and establishing interoperability with related architectures;
3. Simplifying monitoring and management by developing energy-efficient network performance monitoring mechanisms, monitoring and management protocols, and network-management tools;
4. Enabling efficient use of data within and outside WSN applications, including management of WSN systems and specific applications needs.

**… AND INNOVATIVE SOLUTIONS**

The results of this project now mean that it becomes easier and more cost-effective to construct standards-based WSN applications in high-value contexts, which contributes to improved effectiveness and efficiency in society at large. Specifically, the open platform that is based on embedded IP/ Web technologies (6LowPAN/ CoAP) with monitoring and control functionalities enables decoupling of application, middleware and sensors/actuators. Furthermore, the project developed several exploitable building blocks along with multi-standard sensor motes (MTP, Edosoft) and sensor boards with multiple standard communication interfaces, a hardware/software box (Freemind-VUB), an application (MAIS) and a management tool (MTP).

Real-world pilots served as the validation environments for the ISN project results. For instance, this enabled the first hotel management platform based on CoAP and the first building and renewable energy monitoring platform based on embedded IP/ Web technologies. A crucial outcome, and an innovative one, is that the ISN platform speaks with multi-vendor sensors/ actuators and with multi-vendor applications.

In terms of standardisation, ISN actively participated in the IETF CoRE standardisation group that involved monthly teleconferences, interoperability plug tests and the IETF #83 meeting. The consortium established contacts with the IP for Smart Objects Alliance (IPSO), including Sensinode in Finland, Watteco in France and the Swedish Institute of Computer Science.




**FROM DISSEMINATION …**

A key part of the ISN project came in the form of dissemination to get the ISN body of work to a wider audience. Some examples of this are the paper Integrating Wireless Sensor Networks with the Web, presented at the Extending the Internet to Low power and Lossy Networks workshop, which took place in Chicago, USA, in 2011 and which was co-located with the renowned international conference Cyber Physical Week (CPS) Week 2011. Another important paper published by the ISN consortium is entitled Evaluation of Constrained Application Protocol for Wireless Sensor Networks. The paper, presented at IEEE International Workshop of Local and Metropolitan Area Networks (LanMan), in October 2011, at Chapel Hill, USA, demonstrated the energy savings of CoAP compared to HTTP. The ISN project also actively participated in the 9th European Conference on Wireless Sensor Networks (EWSN), in Trento, Italy, 2012, with a demo entitled Enabling Transparent WSN Resource Access via RESTful Web Services. The demo showed how the use of embedded Web technologies simplifies the overall network architecture.

**… TO DEMO …**

The results of the project have been demonstrated in the MAIS fidelity application with control functionality in the domain of hotel management, in a customised calendar application with control functionality and in the Freemind monitoring application that collects data from heterogeneous devices in the renewable energy and building monitoring domains. As for the single building blocks developed in the project, these saw tangible application in a management tool (sniffer), the GAIA3 sensor board and sensor motes with multiple communication interfaces. In fact, these demos provide the basis for the commercial exploitation prospects as Freemind expands its gateway box with WSN open standards that will be used in energy management systems and exercises control via these standards (HVAC optimisation). MAIS is using the ISN platform in hotel management systems and MTP will commercialise both the sensor motes with multiple communication interfaces and WSN management tools while Edosoft aims to commercialise the GAIA3 sensor board.

**… AND EXPLOITATION**

Within a short period of time, new products have made it to market: sensor motes with multiple communication interface (IEEE 802.15.4 and WiFi), hardware platform GAIA3 wireless sensor and actuator networks based on open standards, a sniffer tool for IEEE 802.15.4 and 802.11, and a 6LowPAN/ CoAP based gateway box. Also twenty Flemish companies have shown an interest in the ISN project results and participate in the TETRA project "6LowPan: towards zero configuration building automation" that will run for two years in which the important issue of security is also taken into consideration. In terms of new services, the deployment of customised monitoring and control systems based on open standards can be cited while the newly developed systems include a commercial platform based on embedded IP/Web technologies, a hotel management application based on enabled monitoring and control, and a renewable energy and building monitoring application. An active participation and contribution have been made to facilitate the Internet of Things. An agreement has also been made with the Spanish company Inetsis to sell wireless solutions.

European industry stands to gain a competitive edge in the use of WSN technology in critical sectors of industry and society, sectors where global demand has a huge growth potential. The dissemination of the results to the rest of the world can exert an influence on both the pace and direction of related technical R&D work outside the project and in standards committees. It is also necessary to spread this influence to the user sectors of society and industry to help accelerate the uptake of modern technology and methodology as well as the wide deployment of WSN in large-scale integrated applications.

**FOR MORE INFORMATION**

www.iteaisn.wordpress.com

**Viewpoint • Wilfried Schaefer**

# ITEA 3 and a more global approach to Research & Innovation

*By Rudolf Haggenmüller, ITEA 2 Chairman*


In our High-level vision 2030, which we published together with ARTEMIS, we observed that as a consequence of accelerating globalisation we have to take a more global approach to Research and Innovation.

For ITEA as a EUREKA Cluster it is very natural to undertake this globalisation together with the EUREKA family as whole. Last year, South Korea and Canada became associated EUREKA members and now South Africa is in talks to join the EUREKA network.

To strengthen our voice in the EUREKA discourse we will perform interviews with our ITEA Community; the founding partners, the industry and the SMEs.

Here is now the result of a talk I had with Wilfried Schaefer from Small and Medium-sized Enterprise MAGMA GmbH; one of our distinguished project partners in the currently running H4H project and its predecessor: the golden award winning project ParMA.

***Could you tell me a little bit more about MAGMA?***
MAGMA was founded in 1988 based on activities at the Foundry Institute at the RWTH University Aachen and the Danish Technical University (DTU). Our headquarters is in Aachen, but we also have subsidiaries worldwide. At MAGMA we are developing a software suite called MAGMASOFT®, which helps foundries, casting designers and casting users to predict and optimise casting processes in foundries and casting designs using numerical simulation. To give an impression what this means: the range of castings spreads from tiny jewellery rings up to huge ship diesel engines. The software covers all kinds of materials and casting processes.

From the beginning, the software was designed to be used where casting takes place and not in research laboratories. It was the first casting simulation program with a graphical user interface and pulled casting simulation out of the text-file corner. As we like to say: our programs are designed by foundrymen for foundrymen. This means: most of our customers are small to medium sized companies, but there are also larger ones like most automotive companies. About 35% of our revenue is invested in Research and Development. In addition, we take part in different research projects like PARMA and H4H. We also cooperate worldwide with numerous qualified research and industrial partners.

***Why does MAGMA need to act globally?***
We live in a global market place and that means that acting globally is not an option, but a necessity. Castings are produced throughout the world and the development of the technology and the industrial acceptance of casting simulation worldwide are closely associated with the development of MAGMA, its subsidiaries and its R&D partners, which guarantee together with our own staff an innovative head start for MAGMA solutions. Since the beginning of MAGMA's activities, we recognised that our customers want a local presence to support their use of our products. For that reason we founded as early as 1991, only 3 years after foundation of MAGMA itself, the North

American subsidiary MAGMA Foundry Technologies Inc. in Chicago, USA. Since then we have expanded our global presence. Now we have subsidiaries and branche offices in the USA, Singapore, Brazil, South Korea, Turkey, India, Czech Republic and China.

***Which opportunities and which challenges does MAGMA see in acting globally?***

MAGMA's numerous national and international user meetings and seminars assure a continuous exchange of ideas with foundrymen from our constantly growing industrial customer base throughout the world. MAGMA also has a worldwide network of development partners at universities and institutes. Whether it is algorithmic expertise from Germany, cast iron know-how from Sweden, competence in stresses and strains from Denmark, die casting proficiency from Italy, or steel technology from the USA, we aim at working together with experts at the leading edge of their fields, no matter where they are located. Even at our headquarter in Aachen, Germany we benefit from an international team made up of foundry and mechanical engineers, physicists, mathematicians and material and computer scientists from about 12 countries. Every day, knowledge and experience from both international and national activities is fed directly into the software development process, our engineering services and our customer support. All involved people provide valuable input and ideas that are indispensable in order to realise customer relevant developments and to improve our software.

On the other hand, acting globally means adapting to the local mentality and culture. The challenge is to adapt without sacrificing the values important to the company. Communication over long distances in different languages is consistently a challenge. Modern communication methods help a lot but will never completely replace the personal contact.


***In what way did the projects ParMA and H4H support to MAGMA's globalisation?***

PARMA has been a European HPC project and the successor project H4H, too. MAGMA has long standing expertise in High Performance Computing (HPC). In 1996 the first shared memory version and in 2001 the distributed memory version of MAGMASOFT® were released. The big challenge for our customers is to persist in a global market that demands higher quality of ever increasingly complex castings in even shorter times. The ability to set up quickly a technically reliable and economically successful casting process is vitally needed to be able to meet these competitive requirements. Numerical simulation provides insight into the casting process; HPC is the mean to achieve this. Our customers worldwide are always longing for faster calculation capabilities and our challenge is to meet these requirements. With the help of these two projects we were able to benefit from new developments in hardware technology like multicore and heterogeneous architectures with hardware accelerators. Our software development process got support concerning appropriate tools to maintain flexible program structures that allows us to adapt easily to fast hardware and to quickly realise new developments. Our software will only remain competitive if it supports our customers in being competitive. And this holds true globally.

Joining the knowledge and experience wherever it is situated could make the difference in being competitive and for setting trends.

***How could a more global approach of ITEA even better support the globalisation of SMEs in ITEA projects?***

A more global approach would allow for the fact that we live in a globally linked world. Involving people from all over the world would create new personal contacts and open up to new ideas and possibilities to act globally. Joining the knowledge and experience wherever it is situated could make the difference in being competitive and for setting trends.

Dear Wilfried, thank you very much for these clear statements. Through this interview I feel confirmed in my opinion that for ITEA 3 a more global approach is not an option but a must!

**FOR MORE INFORMATION**

www.magmasoft.de

EUREKA News

# Norway takes over EUREKA presidency 2013-2014

From 1 July, 2013, and for the year to come, Norway holds the chairmanship of EUREKA. The official takeover happened at the EUREKA NPC/HLG meeting in Ankara 18-20 June, where the Norwegian ambassador Janis Bjorn Kanavin formally assumed the presidency on behalf of the Norwegian minister of Trade and Industry, Mr Trond Giske.

Norway's EUREKA Chairmanship team is based at the Research Council of Norway in Oslo, where incoming EUREKA Chairperson Kristin Danielsen is International Director, coordinating the Council's international activities and promoting international research collaboration.

Norway is determined to continue the work of the Turkish Chair, whilst heralding EUREKA as the prototype for industry and innovation in the European Research Area. The priorities of the Norwegian EUREKA Chairmanship are the following:

- Strengthening the position of EUREKA in the European Research Area;
- Continuing to develop the EUREKA international cooperation strategy;
- Simplifying EUREKA's structure;
- Developing a strategic roadmap.

**OPENING CONFERENCE – TRONDHEIM, 4 SEPTEMBER**

The opening conference of the new EUREKA Norwegian Chairmanship was held in Trondheim on 4 September. An audience of more than 200 researchers, entrepreneurs and public funding specialists listened to speeches given by high-level speakers, including:

- Mr. Arvid Hallen, Director general of the Research Council of Norway
- Ms. Jeanette Iren Moen, Norwegian State Secretary of the Ministry of Trade & Industry
- Ms. Clara de la Torre, Director for innovation at the European Commission's Directorate for Research and Innovation
- Mr. Pedro Nunes, Head of the EUREKA secretariat

# EUREKA Clusters – Essential instruments for the global competitiveness of European industry

Under the auspices of the Turkish EUREKA Chairmanship (2012-2013), ITEA has taken part in a HLG Working Group to produce a EUREKA Cluster Document. This report features five chapters that detail what EUREKA Clusters are, what makes them essential and the success of their impact on new economic and societal challenges. The document serves to demonstrate to the public what a EUREKA Cluster regularly achieves through dynamic coopetition. This is also clearly illustrated in the report's foreword written by Okan Kara, former Chairman of the EUREKA network:

"For me, nothing better embodies coopetition than what is achieved by the EUREKA Clusters: a perfect blend of international R&D cooperation, with a competitive spirit. Coopetition happens in the Clusters because project partners - from big industry to SMEs and academia, know that they will reach a higher value result by working together."

The continuous growth and development of EUREKA Clusters, strongly supported by the European industry, EUREKA High Level Representatives and Public Authorities of participating members, have made the Clusters what they are today: essential instruments for the global competitiveness of European industry.

The full report can be downloaded at:
www.itea2.org/itea_publications & www.eurekanetwork.org

*Sources: www.eurekanetwork.org & www.eurekachair.no*