ITEA Magazine 21

JUNE 2015

ITEA 3

PO Days 2015
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Focus on Sweden

ITEA Success story:
Modelica

ITEA 3 Call 1 Projects

The future of happiness

Vice-chairman's summary
The first call of ITEA 3 delivered 20 FPPs submitted out of 21 invited, with a total of 3038 Person Years, involving 17 different countries. We again observe a good balance between the SME, industrial and academic partners, even though the SMEs are now predominant. It is a great success of ITEA to be able to mobilise year after year this number of innovative SMEs to work with the large industrials on projects that aim to achieve worldwide impact. This can certainly be attributed to the programme's known flexibility and market impact orientation. These characteristics are key for such delicate organisations.

The countries most involved this year are France, Turkey, the Netherlands, Finland, Germany, Spain and Belgium and, of special significance, Romania which appears for the first time in this category.

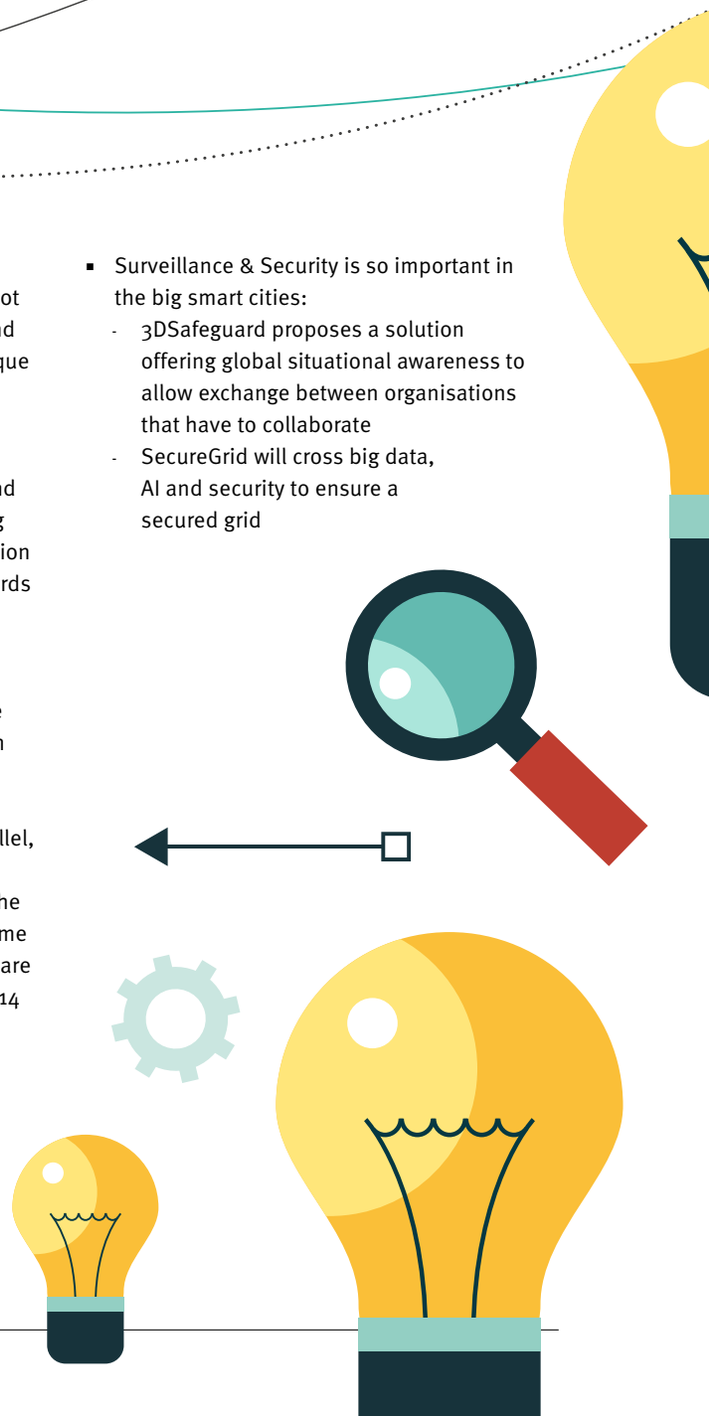
We observe this year a shift towards rather innovative and new market projects even when we keep the pressure on business impact and fast exploitation. This shows that it is not incongruous to push innovation and demand immediate exploitation. It confirms the unique position of ITEA 3 in the R&D landscape.

In general, the proposals delivered a better understanding of the use of value chains and good quality SotA, which reveals interesting progress in this Call not only for the evaluation itself but also for steering the projects towards business impact.

Nevertheless, this Call 1 is actually the first to follow the new planning agreed by all the community partners to reduce the time from the idea to project start. It is clear that this pressure has led to some proposals having been abbreviated to deliver in time. In parallel, to cope with the time from idea to funding KPI we have decided to be more radical in the labelling phase because there is no more time for any negotiation for the proposals which are not perfect from this first step. It has led to 14 labelled proposals.

The main themes arising from this Call are:
- Surveillance & Security
- Engineering
- Healthcare
- Digital revolution
- Digital transition

- Surveillance & Security is so important in the big smart cities:
  - 3DSafeguard proposes a solution offering global situational awareness to allow exchange between organisations that have to collaborate
  - SecureGrid will cross big data, AI and security to ensure a secured grid

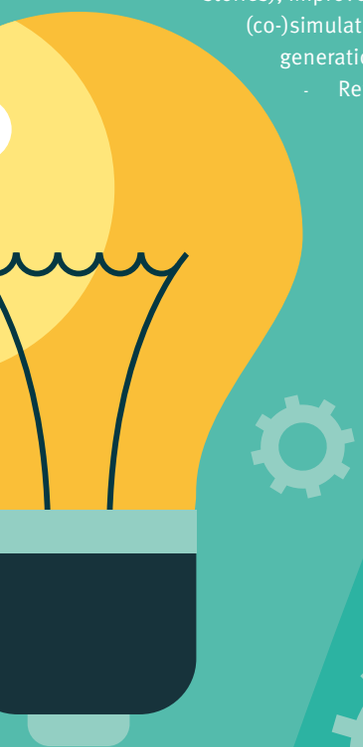


- Engineering remains a key topic for ITEA:
  - ACOSAR aims to integrate simulation and Real Time (RT) systems for automotive design.
  - SW engineering dedicated to continuous measurement of development process with MEASURE.
  - Affordable, safe multi-core development methodology for automotive with ASSUME.
  - OpenCPS focuses on interoperability between the standards UML, Modelica and FMI (one of the last ITEA success stories), improved execution speed of (co-)simulation, and certified code generation.
  - Reflexion will generate tools to extract the undetected user needs.
- Healthcare is back with three important projects:
  - 3D Pathology (a new technology to solve the problems of an existing important market) and Medolution (big-data technology to serve information exchange in the health domain) are two important innovative projects.
  - Medolution will develop an open platform to allow community exchange about health between patients and professionals.
  - EmoSpaces is a follow-up project on emotional management for Wellbeing IoT.
- Industry is also at the dawn of the digital revolution.
  - BEACON will simplify the commissioning of large-scale IoT network using geo-localisation.
- With Digital Transition at the heart of the ITEA focus, we have three applicative projects
  - CERVESA will use computer vision to strengthen the automatic Simulation analysis.
  - SOLOMON will support the traditional retail industry in its digital transition.
  - ETS will reinvent ticketing with digital services.

A total of 14 projects were labelled in Call 1. The projects address a wide range of topics, but can be clustered in the following main themes:

Project overview

THEMES	CALL 1 PROJECTS
Surveillance & Security	3DSafeguard, SecureGrid
Engineering	ACOSAR, MEASURE, ASSUME, openCPS, Reflexion
Healthcare	3DPathology, Medolution, EmoSpaces
Digital Revolution	BEACON
Digital Transition	CERVESA, SOLOMON, ETS



3DPathology 14001
Developing 3D digital pathology with spectroscopy
Project leader: *Barco (Belgium)*

A strong growth forecast in the digital pathology market for the next five years combined with a decreasing number of qualified pathologists will lead to a tremendous increase in workload in the pathology departments of clinical and pharmaceutical organisations. On top of this there is an urgent need for higher quality diagnostic information enabling more effective and efficient treatments. The 3DPathology project will address these needs by creating a fast, digital, quantitative, spectroscopic and multimodal 3D pathology analysis system.

Medolution 14003
Medical Care Evolution
Project leader: *Philips (Netherlands)*

Medolution's vision is a reduction in the cost of healthcare along with an improvement in the quality of life of patients. The project aims to apply long-term monitoring and real-time decision support in smart environments that integrate professional and user-created data. This leads to relevant information to support patients and healthcare professionals in their decision making on diagnosis, treatment and further monitoring; from reactive to preventive. Medolution builds upon the results of Medusa that provides collaborative cloud access to medical information relevant in critical situations.

ACOSAR 14004
Advanced Co-simulation Open System Architecture
Project leader: *VIRTUAL VEHICLE Research Center (Austria)*

ACOSAR will focus on the specification of a non-proprietary open RT system interface, a so-called "Advanced Co-simulation Interface" (ACI), for the efficient integration of RT systems, e.g. test beds, into simulation environments. A communication architecture (incl. protocol) will be set up, which will be independent of the communication systems actually used. Furthermore, a methodology for the seamless integration of RT systems during the late phases of the classical V-model development cycle (verification & testing, validation) will be defined.

MEASURE 14009
Measuring Software Engineering
Project leader: *Softeam (France)*

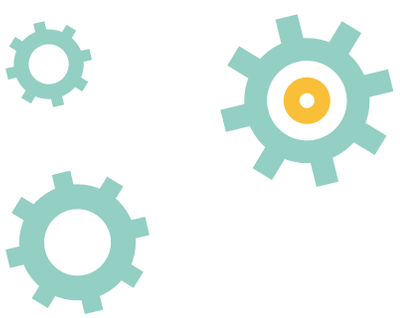
The goal of the project is to increase the quality and efficiency as well as reduce the costs and time-to-market of software engineering in Europe. By implementing a comprehensive set of tools for automated and continuous measurement, this project provides instruments for future projects to properly measure their impact. More importantly, it opens a new field for innovation. The real innovation will be in the advanced analytics of the measurement data enabled by the project.

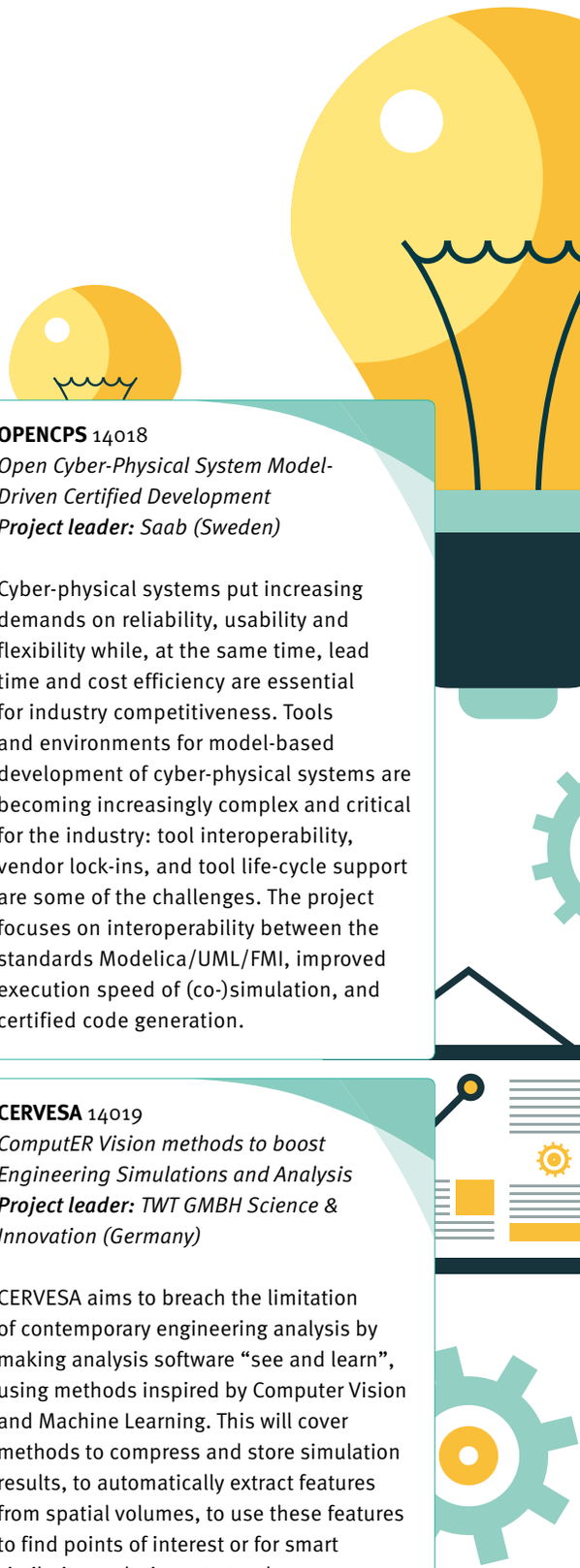
EmoSpaces 14012
Enhanced Affective Wellbeing based on Emotion Technologies for adapting IoT spaces
Project Leader: *Evoleo Technologies (Portugal)*

The Internet of Things (IoT) has evolved from being a far-fetched futuristic vision to something that can realistically be expected to become a mainstream concept in a few years' time. EmoSpaces' goal is the development of an IoT platform that determines context awareness with a focus on sentiment and emotion recognition and ambient adaptation. The main innovative aspect of EmoSpaces lies in considering emotion and sentiments as a context source for improving intelligent services in IoT.

ASSUME 14014
Affordable Safe & Secure Mobility Evolution
Project leader: *Daimler (Germany)*

Future mobility solutions will increasingly rely on smart components that continuously monitor the environment and assume more and more responsibility for a convenient, safe and reliable operation. Currently the single most important roadblock for this market is the ability to come up with an affordable, safe multi-core development methodology that allows industry to deliver trustworthy new functions at competitive prices. ASSUME will provide a seamless engineering methodology, which addresses this roadblock on the constructive and analytic side.





OPENCPS 14018
Open Cyber-Physical System Model-Driven Certified Development
Project leader: *Saab (Sweden)*

Cyber-physical systems put increasing demands on reliability, usability and flexibility while, at the same time, lead time and cost efficiency are essential for industry competitiveness. Tools and environments for model-based development of cyber-physical systems are becoming increasingly complex and critical for the industry: tool interoperability, vendor lock-ins, and tool life-cycle support are some of the challenges. The project focuses on interoperability between the standards Modelica/UML/FMI, improved execution speed of (co-)simulation, and certified code generation.

CERVESA 14019
ComputER Vision methods to boost Engineering Simulations and Analysis
Project leader: *TWT GMBH Science & Innovation (Germany)*

CERVESA aims to breach the limitation of contemporary engineering analysis by making analysis software "see and learn", using methods inspired by Computer Vision and Machine Learning. This will cover methods to compress and store simulation results, to automatically extract features from spatial volumes, to use these features to find points of interest or for smart similarity analysis, or to teach programmes to develop a general "hunch" about the quality of the result before the human even has to look at it.