



**Le Centre d'Excellence en Technologies de  
l'Information et de la Communication**

**(Center of Excellence in Information and Communication Technologies)**

**PRESS INFORMATION**

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**www.cetic.be**



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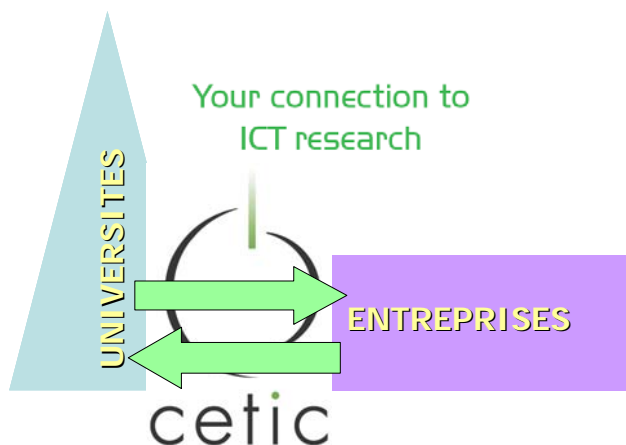
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## About CETIC

### History - Mission

CETIC is the Centre of Excellence in Information and Communication Technologies.

Created in 2001 as an initiative of three Belgian universities - the Polytechnic Faculty of Mons, the University of Namur and the Catholic University of Louvain -, CETIC positions itself as a R&D centre « serving the industry », being a **connecting agent between academic research and the enterprises**, acting for technology transfer in software engineering and electronic systems. Through its research activities, CETIC strongly relies upon close collaborations with multiple University Labs.



The areas of expertise of CETIC are:

- ▶ Software processes and product Quality
- ▶ Requirements engineering
- ▶ Modelling of critical systems
- ▶ Distributed systems
- ▶ Embedded systems
- ▶ Free and Open Source Software

Technological innovation in the area of ICT is evolving at a very high speed. IT, software products, embedded systems are everywhere. The major characteristics of the ICT industrial sector are:

- ❑ A drastic impact on all areas of human activities: telecom, healthcare systems, transport, environment, business, finance, science, public services, defence...
- ❑ An ever-faster emergence of new basis technologies,
- ❑ A very high transfer speed, from the research lab towards commercial applications,
- ❑ Very low investment costs in infrastructure and hardware, and therefore an extreme mobility of the industrial activity, challenging western countries,
- ❑ The need for multi-disciplinary expertise to successfully complete large projects,
- ❑ The importance of the human factor,
- ❑ The capacity to generate new business activities, to create new high-value jobs.

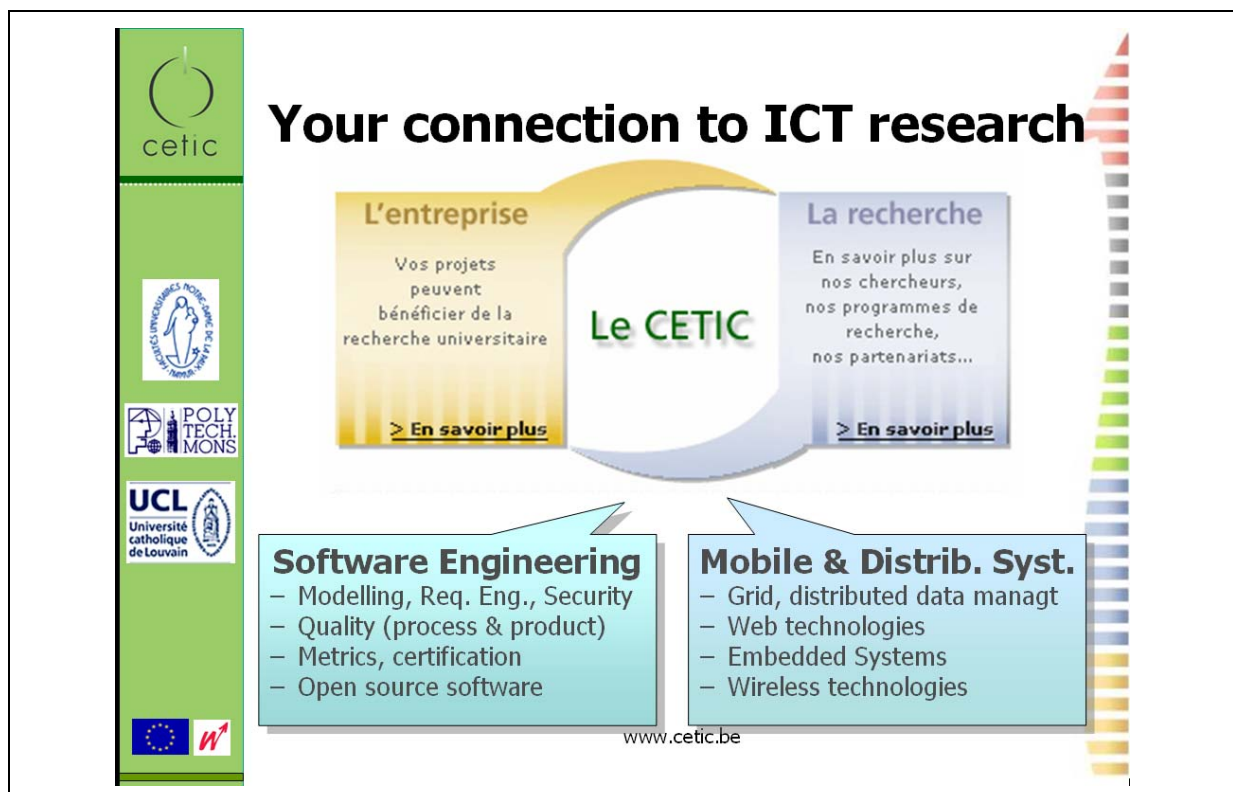
It is therefore CETIC's objective to support ICT companies in order for them to be as efficient as possible, and faster to exploit the opportunities related to innovative technologies.

Founded in 2001, CETIC is now converging rapidly towards the self-financing criteria that have been set by the Walloon Region. From 9% in 2004, the self-financing rate is getting to 36% in 2006, and will soon get to the desired 50% (likely in 2008). This results from a growing R&D consulting services for the Industry, as well as significant projects win at European level (FP6). This is a clear demonstration of a right correspondence of CETIC research activities with the needs of the Industry, and of the scientific excellence of CETIC research teams.

## Two Strategic Orientations

CETIC is running pre-competitive research projects, in close partnership with a wide panel of enterprises, and focusing on two strategic orientations:

- **Software Engineering**, i.e. methods and tools for improving software processes (in particular requirements engineering), software products, and modelling technologies to verify the safety and security of critical systems, in order to guarantee they will behave as wished;
- **Communicating, distributed, embedded systems**, i.e. software technologies (Grid), electronic technologies (FPGA, Wireless protocols), relying on a network (e.g. the Internet), in order to reach high availability, dependability, mobility, collaborative environment...



Both research orientations are strongly backed up by strong links with university labs, realising the technology transfer mission of CETIC, to the benefits of enterprises, as highlighted by CETIC's positioning line: « Your Connection to ICT Research ».

### **A European Dimension**

Together with its partners, CETIC has been very active to penetrate the European Research Area, and has succeeded in becoming a major player in the area of distributed systems, grid technologies and software and services, mainly within the 6<sup>th</sup> Framework Program.

Currently, CETIC is partner (and often a key partner) in 8 European Research Projects of the FP6. Amongst those, CETIC has set up and is now coordinating two newly launched projects, GridTrust and Qualoss. Those two projects (see later for further description) are of paramount importance for CETIC, since they are driven by CETIC, and they will directly benefit to CETIC's industrial partners.

Through these actions, CETIC is now a key partner of major European Enterprises and ICT European Research Centres.

## Who's Who at CETIC ?

### The Members

The founding members of CETIC are:

- The Polytechnic Faculty of Mons (FPMs),
- The University of Namur (FUNDP),
- The University of Louvain (UCL)

Early 2006, the multi-sectorial federation of technological industries (AGORIA, see [www.agoria.be](http://www.agoria.be)) has also become a CETIC member. The General Assembly is completed by several key figures, known by their strong activity in the ICT research area.

### The Board of Directors

Composition of the Board of Directors:

- Bernard Bolle – Siemens Business Services
- Serge Boucher – Rector of FPMs
- Roland Keunings – Research Pro-rector of UCL
- Jean-Luc Hainaut – Prof. FUNDP
- Benoît Macq – Prof. UCL
- Roger Malchair – Evadix
- Pierre Manneback – Prof. FPMs
- Lucyan Papiernik - IGRETEC
- Michel Scheuer – Rector of FUNDP (President)

## **The Industrial Advisory Board**

The CETIC Industrial Advisory Board has the key mission to give recommendations to the Board of Directors about the scientific and technological research orientations that need to be developed within the organisation, in order to make sure it fits the needs of the ICT Industry.

Most members originate from the Belgian ICT industry, completed by few academic representatives. The current composition of the CETIC Industrial Advisory Board is:

- Mr Claude Cambier, Unisys,
- Mr Patrick Crasson, Sun Microsystems,
- Mr Pascal Durdu, Belgacom,
- Mr Marc Durvaux, Alcatel Alenia Space ETCA,
- Mr Pierre Guisset, CETIC,
- Mr Naji Habra, FUNDP,
- Mr Jean-Luc Hainaut, FUNDP,
- Mr Igor Klapka, Open Engineering,
- Mr Philippe Lecourt, Technord Automation,
- Mr Jean-Didier Legat, UCL,
- Mr Philippe Mack, Pepite,
- Mr Pierre Manneback, FPMs,
- Mr Philippe Massonet, CETIC,
- Mr Yves Moulart, ST Microelectronics,
- Mr Dominique Orban de Xivry, Rever,
- Mr Etienne Pourbaix, Thalès,
- Mr Bruno Schroder, Microsoft,
- Mr Daniel Tuyttens, FPMs,
- Mr Luc Vandendorpe, UCL (President)



- Mr Christian Vanhuffel, Agoria ICT,
- Mr Axel van Lamsweerde, UCL,
- Mr Christian Verdonck, BizzDev.

## About Qualoss

QUALity of Open Source Software (QUALOSS) is a Framework Programme 6 project funded by the European Commission. It is coordinated by CETIC and involves eight partners from 5 European countries, namely Belgium, France, Germany, Spain and the Netherlands.

## Project Background

Qualoss aims at developing a method for measuring evolvability and robustness of free and open source software components (F/OSS). The novelty of Qualoss is that it proposes measuring evolvability and robustness of a F/OSS component by analyzing its source code as well as other project data such as bug reports, information on the developer community and the time taken to answer users' requests. The measurements taken on each type of data will then be aggregated into quality models that help assess the evolvability and robustness of a F/OSS component.

The great advantage of F/OSS is that information is available in F/OSS project repositories. In turn, to build quality model to estimate the evolvability and robustness of a F/OSS project, CETIC will use data available in F/OSS repositories. Furthermore in order to simplify the application of their quality models, tools will be implemented to automate the retrieval and the subsequent processing of F/OSS project data. All implemented tools will be integrated in the Qualoss platform. At the end of the Qualoss project, a user will use the Qualoss platform to measure the level of evolvability and robustness of any desired F/OSS project.

Qualoss will start from existing standards such as ISO9126 exit. However, existing standards and norms use very little information from source code and they impose collecting data that can only come from applying a rigorous development process unlikely to be followed by F/OSS communities. For example, ISO9126 requires collecting data from peer review of requirements documents or of test plan documents. Very few F/OSS communities impose peer review and in most cases, requirements or test plan are rarely formalized in a document thus, making most quality models from ISO9126 inapplicable. Subsequently, the measurement method and CETIC's quality models develop during Qualoss will only use

information provided in F/OSS repositories and no data beside those found shall be required to apply CETIC's quality models.

To be relevant, CETIC's measurement method and quality models must be applicable to a wide variety of F/OSS projects. In turn, they will be validated on data from real F/OSS projects found in the well-known repositories such as SourceForge, Savannah, or FreshMeat.

### **Added Value for Businesses**

Many organizations started investigating the integration of F/OSS components in their systems and products. On the other hand, there is still a strong fear from some organizations to integrate F/OSS components mostly because of the lack of trust in the capacity of the F/OSS communities to support its products. Thanks to the Qualoss project and the Qualoss platform, an organization will be able to measure fairly easily the level of evolvability and robustness of a selected F/OSS project. The quality model on evolvability developed during Qualoss will help companies estimate whether the level of support provided by a F/OSS community is sufficient. For example, quality models related to evolvability will measure how long it takes on average to answer a user's request or to solve a bug. Armed with such information, an organization will be able to take well-informed decisions on whether a F/OSS component has the required quality level to be integrated into their system or product.

## **About GridTrust**

GridTrust is a new FP6 European research project coordinated by CETIC. The overall objective of the GridTrust project is to develop the technology to manage trust and security for the Next Generation Grids (NGG). CETIC proposes to have a vertical approach tackling issues of Trust, Security and Privacy (TSP) from the requirement level down to the application, middleware and foundation levels. CETIC's emphasis is on models and tools to assist in reasoning about trust and security properties along the NGG architecture.

## **Project Background**

GridTrust consortium involves a large panel of industrial partner, end users, SMEs and European research groups covering the areas of requirement engineering, Grid technology and security among others. Moviquity, HP and Interplay are providing important test cases to validate the GridTrust framework, including innovative applications such as "inter-enterprise knowledge management" and "distributed authoring". Moviquity and De Agostini are committed to implementation and exploitation of the results of the project middleware and foundation levels. The main output of GridTrust is a framework consisting of:

1. a methodology and an interactive execution environment that will help Grid service requestors and providers to express and reason about trust, security and privacy properties for different kinds of Virtual Organisation (VO) topologies, taking into account aspects such as self-organisation, self-management, self-adaptation and evolvability;
2. a reference Grid Security Architecture, including an autonomic policy management for fine grained usage control of Grid resources; and
3. an open source reference implementation of trust and security management systems, validated by scenarios in the business domain. The resulting tools will be of a generic nature and will be validated on innovative applications from different application sectors. The tools will not be specific to the applications considered in the GridTrust project. The tools will be compliant with the Open Grid Services Architecture (OGSA).

**Added Value for Businesses**

The results of the project will allow companies to set up and operate virtual organisations that are secure and trusted. The approach will provide tools to design security and trust requirements into the virtual organisation. Virtual organisations will allow companies to provide and to access Grid resources to achieve common goals. Virtual organisations are also valuable in the larger context of Service Oriented Architectures to set up "virtual" markets.

**Practical information** about CETIC, Qualoss and GridTrust is available on the following websites : [www.cetic.be](http://www.cetic.be), [www.qualoss.eu](http://www.qualoss.eu) and [www.gridtrust.eu](http://www.gridtrust.eu).

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### **How to get there...**

