



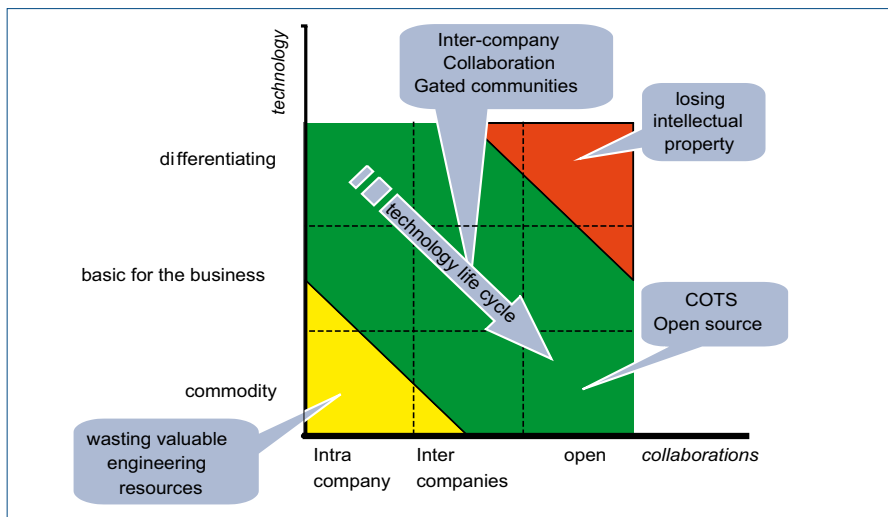
PROJECT PROFILE

Heterogeneous distributed development

Co-development using inner and open source in software intensive products

The COSI project investigates the consequences for software engineering of moving to heterogeneous development. Distribution of software and systems leads to identifies and highlights different approaches to control and ownership, business models, architectures, processes and priorities. This project will develop methods and standards that will ensure that such a complex situation delivers quality embedded software product.

resource for creating the standard components is wasteful and drains the resources that might otherwise be used to improve the business. The commodity software is sourced elsewhere. It might be created via distributed development, purchased as commercial off-the-shelf (COTS) or, more likely, introduced as open source software. This requires an increasing amount of multi-party collaboration, in addition to already common bilateral partnerships. However, many companies, wishing



Efficient and effective development

The new challenges for Software
In most products, only a small part (five to 10 percent) of the software is differentiating. The remainder is in many ways a commodity that's common to one, or more, domains. Effective and efficient software development focuses only on these differentiating components as creating all code in-house isn't economic. Using internal

to avoid losing intellectual property, resist collaborating in product areas that are differentiating. In time, though, these differentiating components become less important to their businesses and, eventually, they too become commodity items. To stay ahead of this problem, companies need to know how to set-up effectively and manage multi-party collaborations.

COSI (ITEA 04031)

Partners

- Combitech Systems
- European Software Institute
- Gamelion
- Helsinki School of Economics
- Högskolan i Skövde
- ICT Norway
- Meritie
- Nokia Siemens Networks
- Philips Applied Technologies
- Philips Medical Systems
- Philips Research
- Telefónica
- Telvent
- Universidad Politécnica de Madrid
- VTT Technical Research Centre of Finland

Subcontractor partners

- eZ systems
- Keymind Computing
- Linpro
- NTNU
- Roland Systemutvikling

Countries involved

- Finland
- The Netherlands
- Norway
- Spain
- Sweden

Project start

November 2005

Project end

Oktober 2008

Contact

Project Leader:

Frank van der Linden, Philips Medical Systems, the Netherlands

Email:

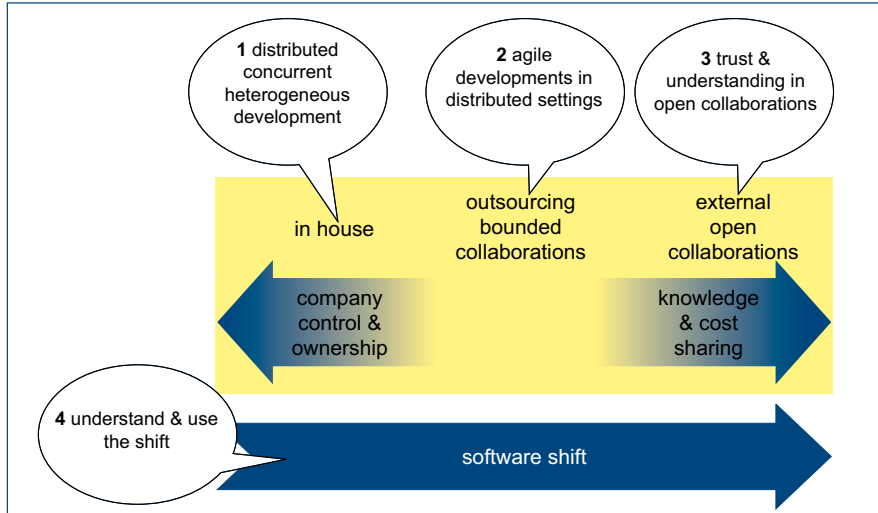
frank.van.der.linden@philips.com

Project website:

www.itea-cosi.org



PROJECT PROFILE



The four COSI goals in heterogeneous collaborations

A new way of working

The project results will enable us to develop embedded software in a heterogeneous distributed concurrent environment. It's important to know how to deal with differences in ownership, control and business goals of the participants. The architectural consequences of integrating software from many sources needs to be understood and solutions should satisfy the specific needs of individual collaborators as well as the general needs of the group. Moreover, we need to have an insight in the possibilities for maintenance and continuity of the development, which will be used in future planning.

The project is faced with the following main challenges:

1. Obtain experience on how to develop quality software in a distributed concurrent heterogeneous environment.
2. Investigate how to combine agile and heavy software processes in a distributed software development.
3. Encourage trust and understanding between industrial and open source communities.
4. Understand and make profitable use of the shift of embedded software from differentiating to commodity.

The way ahead

We will start with an inventory of existing practices in distributed

heterogeneous development, along with development processes, architecture, requirements and quality systems in industry and open source communities. This inventory records methodologies and models. Case studies will be used to improve and validate the different methodologies and models with an emphasis on aspects such as business models, processes, requirements, architecture and quality assurance. After final validation the project will propose practice modifications for future use.

In addition we will inform the European community through a portal, external workshops and courses. It is expected that the knowledge obtained will lead to a better trust and understanding between industry and open source communities. This will result in greater participation of open source communities in industrial projects. And, as open source communities are mainly run by small and medium-sized enterprises (SMEs) this will lead to an improved contribution of SMEs in industrial projects.

COSI, the missing link

The project results will be used by software engineers, managers in industry and by open source communities. The project should lead to greater trust and understanding between these groups, facilitating collaboration between them.

ITEA 2 Office

Eindhoven University of Technology Campus
Laplace Building 0.04
PO box 513
5600 MB Eindhoven
The Netherlands
Tel : +31 40 247 5590
Fax : +31 40 247 5595
Email : itea2@itea-office.org
Web : www.itea2.org

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ITEA was established in 1999 as a EUREKA strategic cluster programme. We support coordinated national funding submissions, providing the link between those who provide finance, technology and software engineering. We issue annual Calls for Projects, evaluate projects, and help bring research partners together. We are a prominent player in European software development with some 9,000 person-years of R&D invested in the programme so far.

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