

## QualiPSo

Boosting Innovation and growth by fostering Open Source

Matteo Melideo

QualiPSo Project Coordinator

LINUX Foundation Collaboration Summit

8-10 April 2009 – San Francisco



CORDIS



Information Society  
Technologies



- Project Acronym: **QualiPSo**
- Project Title: **Quality Platform for Open Source Software**
- Project instrument: **Integrated Project**
- Contract Number: **034763**
- Consortium: **18** organisations from **9** countries (**3** continents)
- Thematic area: **Open development Platforms for software and services**
- Duration: **48 months** (important results from every year)
- Budget: **17.3** MEuro (Funding **10.4** MEuro)

- The context ...
  - ... impact on economy
  - ... recommendations
- QualiPSo
  - ... the mission
  - ... the challenges
  - ... the approach
  - ... the network
- The research activities and results
- Collaborations with Fossbazaar
- A final request

- Open source is not new concept but IT economic context is changing ...
  - Increased need of cooperation and collaboration enabled by the Internet
  - Most of the new business are conceived to be web based (SaaS)
  - Open Standard and open source software foster commoditization (with all the pros and cons that this may imply)
  - The policy makers start to be sensible to the OSS arguments (China, Brazil, some European countries already started a massive adoption of OSS in the PA)
- ...the economy is changing and benefiting from this paradigm shift...

- Economies are evolving from product orientation to service orientation
- Open Source is a chance for industries to foster growth and increase competitiveness
- Open Source is one of the top IT issues (Gartner source)
- Open Source as the engine of the Service Economy
  - For the service providers to keep the service cost as lower as possible
  - For the service consumer (citizens) to have more competition
  - For the Software Industry to have more resources for innovation
  - For Public Administration to release resources to boost and support local employment

- **Product Maturity**

- Ease of use, breadth of functionality
- Ease of deployment and management
- Stability
- Governance
- Architecture dependencies
- Product road maps

- **Market Presence**

- Number of users
- Size, commitment and organization of development team
- Availability of trusted distribution, support, certification, training, indemnification and other services
- Presence and vitality of a commercial "ecosystem"

\* Gartner Source

- 
- A unique alliance to help industries and governments to fuel innovation and competitiveness in today's and tomorrow's global environment by providing the way to use trusted low-cost, flexible open source software to develop innovative and reliable information systems.
  - The largest open Source project funded by the European Commission under its sixth framework program (FP6), as part of the Information Society Technologies (IST) initiative
  - 18 founding members, across Europe, Brazil and China



## IT IS ALL ABOUT TRUST!

Trust cannot be claimed without being proved!!!

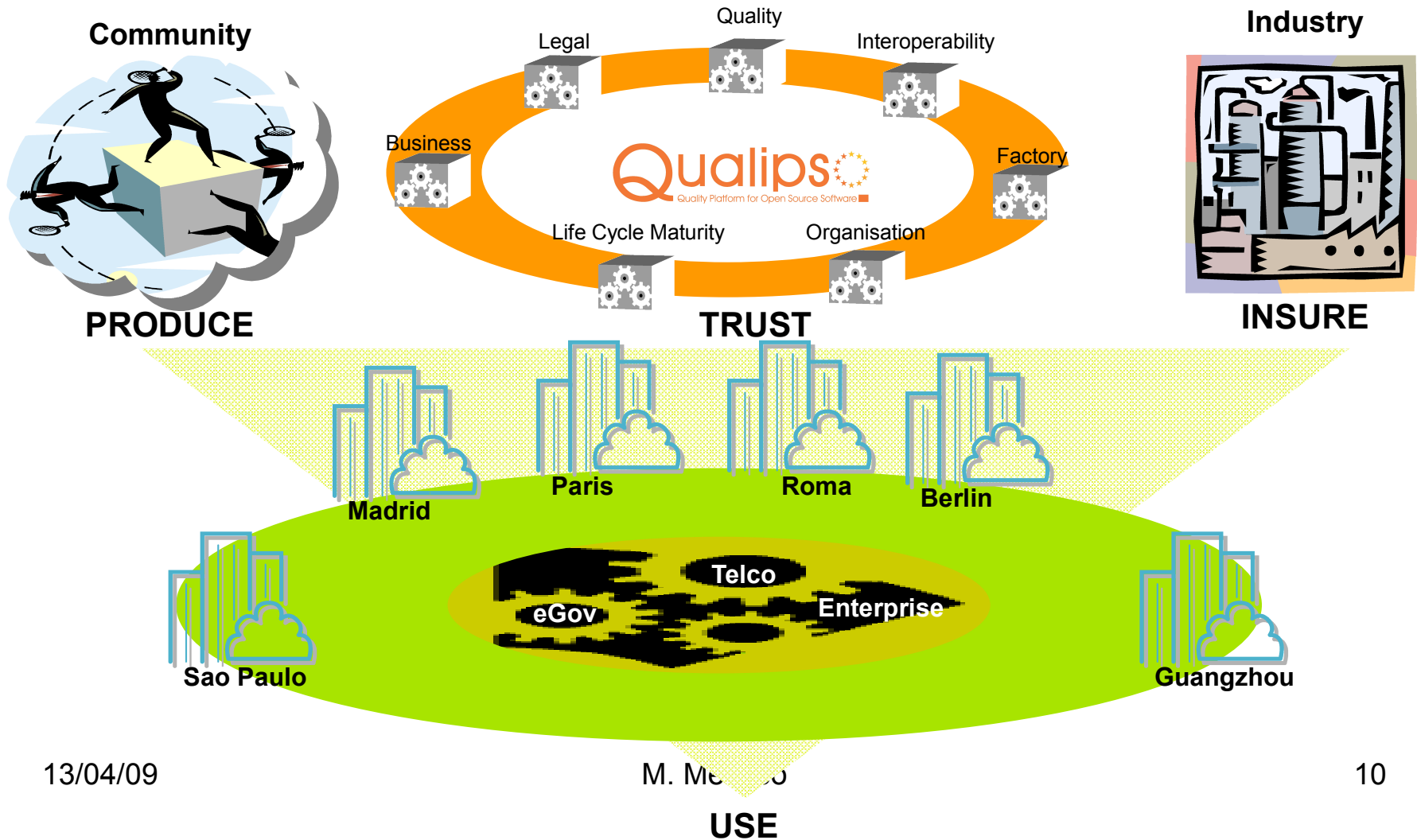
- To define and implement **technologies**, **procedures** and **policies** to leverage the Open Source Software development current practices to sound, well recognized and established industrial operations.



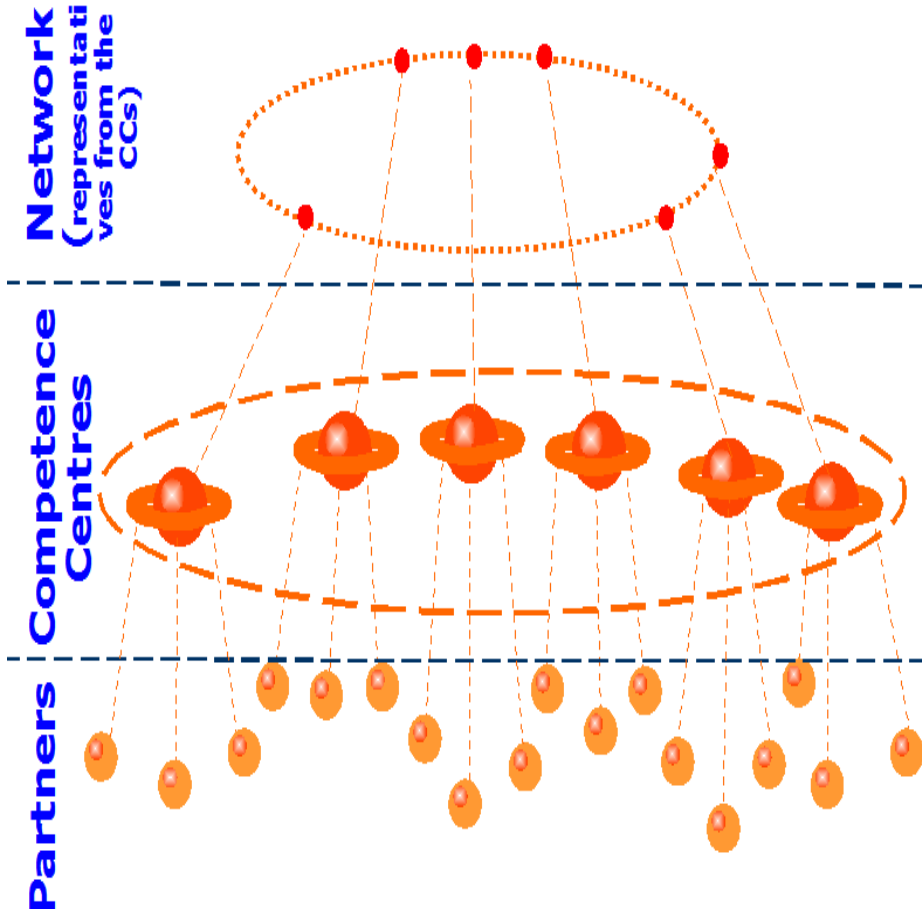
- Dismiss the popular myths against OSS that prevent the industrial commitment
- Prove the quality of the OSS for the industry

**From rebellion TO industrial practices  
keeping the freshness and enthusiasm of  
OSS tradition**

... Alliance of Industry & Community to build trust on Open Source



- QualiPSo CCs form a Network (federative model) sharing the same ethics, methods and tools
- Act locally and cooperate globally
- Provide expertise and a common set of services on a variety of topics related to quality
- Each CC has its own legal model and be self-sustainable



# The research activities and results

- **Objective:** improving legal quality of open source software
  - Understand legal questions around open source
    - How to evaluate risks & responsibilities? Are licences compatibles? What are the constraints at international level? etc.
- **Main results:**
  - multinational reference portal for accessing accurate, qualified and neutral information about legal issues for Open Source,
  - resources for the community to understand and address the problems of license compatibility, liabilities and risk related to using OSS
  - methodologies to track intellectual property rights during the software development cycle.

- **Objective:** to identify all circumstances that are relevant for using Open Source in industry
- **Main Results:**
  - Ease and stimulate the integration of open source components in industrial systems and applications
  - Define strategies for attitude, cooperation and dialogues between industries & open source communities
  - Hybrid solutions (products)
  - Define viable « Business models » for applications using open source components

- **Objective:** provide qualified integration approach and test environment to foster and demonstrate OSS interoperability across borders of any kind.
- Three research axes:
  - Technical interoperability (open standards, middleware, interoperability testing)
  - Semantic interoperability (shared and harmonized information models)
  - Organizational interoperability (interworking of processes and cross-organizational cooperation)
- **Main results:**
  - Provide interoperability testing guidelines, analyse and enhance interoperability of OSS middleware and forges



- **Objective:** implementing best practices in information management (source code, documentation, etc.) to improve the productivity of OSS development and support.
- **Main results:**
  - Identify where information management can be improved in OSS projects
  - Analyse the structure of information and data manipulated in collaborative tools
  - Define and implement new tools for information management

- **Objectives:** Enabling the assessment of the trustworthiness of OSS products and components
- **Main results:**
  - validated, customizable OSS product trustworthiness model
  - test suites, benchmarks
  - tools

- Goal oriented: driven by the needs of OSS “users” (they are our users too)
  - developers, integrators, system administrators, product managers, clearing house members, end users, etc.
- Evidence-based
  - experiments, static and dynamic measures, testing, tools, validated models
- Iterative and incremental
  - 2 iterations are planned

- Find users' goals and trustworthiness factors
  - Which *product- and process-related* trust factors are taken into account when selecting (or rejecting) OSS?
  - Ranking of 35 factors based on 151 interviews
    - factors grouped in eight groups according to importance
  - More interviews are certainly useful

- Find out which trustworthiness factors can be easily assessed
  - What kind of information is out there to help “users” choose? What is missing?
  - 32 OSS projects examined
    - several pieces of information that are important to “users” are missing
  - We need to find ways for making this information easily available

- Define measures for trustworthiness (the Y) and its influencing factors (the X's)
  - How can we measure OSS trustworthiness?
    - the quality we want to predict/estimate
  - How can we measure product- and process-related trustworthiness factors?
    - the factors that influence trustworthiness
  - Measures have been defined for both
    - based on users' goals

- Users often use dynamic information
  - What is the role of testing in OSS?
  - Can we define sensible OSS benchmarks?
  - Would it be possible to reuse/define dynamic measures?
  - Study is underway
    - collaborations would help come up with broader perspectives



- Build supporting tools
  - Three families of tools
    - test tools
    - measurement tools
    - data analysis tools
  - Work is underway
    - collaborations would help us broaden our set of applications

## Vision

Allow companies to use FLOSS to build their mainstream products and services

How?

Through the definition of a CMMI-like model for FLOSS to improve the trust in FLOSS software

1. Quality of documentation: exhaustive and easy to be understood (PDOC)
2. Popularity of the FLOSS product (REP)
3. Use of established, well-known widespread standards (STD)
4. Availability and use of a roadmap (RDMP)
5. Quality of the test plan (QTP)
6. Relationship among different stakeholders (STK)
7. Existence of a decision-making process to choose licenses/include disclaimer texts (LCS)

8. Existence of a well-established set of development tools (ENV)
9. Vitality of the development process and adequacy of the bug fixing process (DFCT)
10. Enforcing maintainability and stability of the FLOSS product/process (MST)
11. Contribution to FLOSS Product from SW Companies (CONT)
12. Availability of relevant assessment results concerning the project (RASM)

**Implemented  
FLOSS-TWEs:**

**Implemented  
CMMI PAs:**

From intermediate  
Level

From CMMI Maturity  
Level 2 and 3

Advanced  
Level

Basic Level  
+  
REP, RDMP  
STK, RASM, CONT

From CMMI Maturity  
Level 2

Intermediate Level

PDOC, STD,  
QTP, LCS,  
ENV, DFCT,  
MST

Optional,  
from CMMI  
Maturity  
Level 2

Basic Level

**Objective:** designing and implementing the “QualiPSo Factory”, an integrated environment to facilitate and support the development of industrial OSS systems.

**Main results:**

- Create/integrate a next generation forge portal
  - With all communication tools
  - With the concepts and tools for cooperative development
- Implement tools to evaluate the quality of components
  - Define metrics and classification tools
  - Integrate automatic tools for control, measure...

- **Objective:** developing a long-lasting network of professionals caring for the quality of open source software for enterprise computing
  - Independent competence centers in Europe, China, Brazil
  - Dedicated resources. May be specialized
  - Will run the collaborative platforms, tools and process developed in this project
- **Main results:**
  - Set up to support the development, deployment and adoption of OSS by private and public Information Systems Departments, large companies, SMEs, ISVs.



- For QualiPSo is important to increase the visibility also in USA then
  - To create a community of interest around the two initiatives
  - Exchange of mutual feedbacks for the benefits of both
  - Joint workshop organization
    - Produce a position paper on specific subject (e.g. Quality, Legal Issues, etc.)
  - Reference each other initiative to the respective Web sites
  - ...

- To visit our web site and fill our on-line questionnaires
- To provide feedbacks on our archived results
- To be part of the QualiPSo Community



**Thank you for the opportunity on behalf of the QualiPSo Project**

Matteo Melideo, PMP  
(Head of Service Engineering Unit)

Engineering Ingegneria Informatica S.p.A.

Tel: +39-0649-201-410

Cell: +39-335-5728374

email: [matteo.melideo@eng.it](mailto:matteo.melideo@eng.it)

[www.qualipso.org](http://www.qualipso.org)

