



Tempus

# OSSCOM

Partnership with Enterprises Towards Building Open Source Software Communities and Rejuvenation of Technical Education and Innovation.



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**Project participants:**

BRSU Germany

GJU Jordan

YU Jordan

TAGIT Jordan

UBRUN UK

UCLM Spain

NDU Lebanon

LU Lebanon

IML Lebanon

Tarent Germany

## About us:



OSSCOM builds on the successful cooperation between GJU and BRSU on developing quality and relevance ICT education (2007-2010), and spotlights the cooperation between Europe and the East Mediterranean for open dialogue and exchange of knowledge and technology.

OSSCOM aims to setup linkage systems between IT institutions and enterprises to support transformative technical education and rejuvenation, build OSS hubs and communities, and enhance technology access to societies at large. Technology centers will be setup in partnership with enterprises to provide coordinated support and resources for developing and enabling an environment for large scale OSS technology outreach and its use in institutions. By attracting higher education (HE) institutions and industrial partners from the PC and Europe, OSSCOM will be a large OSS capacity building, entrepreneurship, and technology support project in the region. Its ultimate goal is to enhance linkages between HE institutions and enterprises in order to motivate better technology education, build OSS community of practice, and boost economic development. OSSCOM road map is to establish links with enterprises for relevance of ICT education; setup OSS technology hubs to provide support to communities and promote innovation and business acceleration; develop OSS technology resources; facilitate the adoption of OSS as feasible alternatives to proprietary software; and create entrepreneurship incubators and business start-up facilities. OSSCOM approach is comprehensive and wide-ranging in geographical coverage in the partner countries. Activities will span the whole cycle of integration, from setting up links with enterprises and establishing specialized OSS technology centers to the integration of OSS into education and learning systems and transformation of innovation and business startups. OSSCOM will play an important role in disseminating OSS resources, providing technical support, and creating awareness at the policy level in Jordan and Lebanon towards a national move to adopting OSS technologies and making available affordable technologies to citizens.



## Objectives:



The wider objective of OSSCOM is to “to cultivate cooperative partnership between higher education (HE) structures and enterprises at the national level in the participating partner countries and build sustainable communities of practice in free and Open Source Software with a goal to strengthen its use for improved quality ICT education, enhanced information society, fostered innovation, and accelerated growth in ICT”. The specific objects are:

1. Improve the quality and relevance of higher education structures in ICT through links with enterprises
2. Establish Centers of Excellence in OSS technologies to provide support to communities and PC societies at large
3. Develop relevant technical and educational resources at PC institutions with focus on OSS technologies
4. Promote the adoption of open source technologies as feasible alternatives to proprietary software
5. Enhance collaboration with enterprises for building sustainable and viable communities of practice in OSS
6. Reach out to businesses through an entrepreneurial effort to create companies providing services and support for OSS
7. Promote the concept of entrepreneurship and facilitation of incubators and business startups in HE structures





## Action plan:



To reach these objectives, OSSCOM will implement a series of activities, which include a support to institutions in Jordan and Lebanon with local and high-level technical expertise and guidance in developing and installing OSS technology, curricula, and resources, as well as developing innovation venteres and technology parks to incubate OSS development projects and spin-offs and support entrepreneurs with mentorship and business acceleration facilities. In parallel, studies and reports will be published on the status of OSS technology and its advantages and opportunities for enterprises. OSSCOM will setup two main technology centers as cloud infrastructures to host applications, resources, and facilities of OSS technology.

The importance of OSS technology and its impact will be analyzed and distributed to policy maker, stakeholders, and civil servants in order to stimulate their interest and support its deployment and adoption.

Further actions will be provided in terms of curricula development, knowledge dissemination, and technology transfer through appropriate university based activities and training. Workshops and conferences will be organized in order to enhance OSSCOM effectiveness and participation across different communities and policy levels.

Planned activities: OSSCOM has a structured work plan addressing management, dissemination, development, exploitation, and sustainability, through the following activities:

- Developing a management framework with clear roles and responsibilities of all individuals participating in the project.
- Consolidated and facilitating OSSCOM dissemination through the project portal, promotional material, case studies, reports, social media, and conferences targeting communities, institutions, high level policy, and influential persons and stakeholders.



- Developing a powerful computing infrastructure through the deployment of two technology centers, equipped with an array of servers and large network storage as a nucleus for an OSS driven cloud computing system for faculty, students, and communities.
- Mobilizing OSSCOM partners network to facilitate OSS technology transfer and training to develop strong communities and industry in free and open source software.
- Contributing to the development of OSS technology resources and spinoffs as well as collecting success stories to be shown as evidences and facts on the importance of OSS as alternative solution to proprietary software.

OSSCOM activities and outcomes will not be limited to participating institutions, but rather disseminated to institutions and communities at large. OSS applications and services will be extended to include professionals, engineers, and staff members of governmental institutions. OSS technology support services and local content development will be openly published on OSSCOM web portal. Disseminating knowledge and experiences will create new prospective professionals and entrepreneurs. It will also allow for more multicultural diversity among EU and the PC institutions.

Educational communities: OSS based teaching and learning will be enhanced in many different ways, including revision of curricula to accommodate OSS principles, tools, and products; adaptation of widely used open source products to provide cheap alternatives proprietary software; and certification in OSS with a focus on products targeting technical employees in organizations, institutions, and public agencies. During the project, different educational communities will be involved: (1) Faculty and engineers to build up OSS expertise and knowledge/ information repositories as the nucleus for sustainable OSS technology centers. (2) Students to build up OSS expertise during their study in the OSS revised curricula and by participating in OSS activities in the technology centers and in their senior projects. (3) Enterprises to be linked to universities for joint cooperation in developing OSSCOM concepts and operations.

Regional aspects: OSS technology centers will equally convey their knowledge to the society as a whole by providing OSS resources, consultation, and support services to institutions as well as enterprises and communities spanning several countries across the region, while facilitating collaboration opportunities with similar initiatives in the region and Europe for synergies. The interactive process of cooperation and cross-fertilization will be pursued through regional conferences, workshops, and dissemination activities.



## Project Phases:



1. Evaluation of technical prerequisites and criteria of industry linkages and OSS technologies at PC institutions.
2. Acquisition of knowledge and expertise through cooperation with EU institutions to develop partnerships and OSS resources and build OSS capacity among faculty and student communities,
3. Establishing centers of excellence in PC institutions as partners in the change towards the use of OSS and in providing support services and on-line learning resources,
4. Building viable communities of practice to promote open source usage as well as develop entrepreneurial skills and motivate and incubate business startups,
5. Developing partnership with enterprises to strengthen university-industry linkages and build technology parks for increased innovation in OSS,
6. Creating OSS awareness in key sectors: government, education, tourism, agriculture, and rural and civil society institutions.





## Partners:

### 1. Hochschule Bonn-Rhein-Sieg University of Applied Sciences-BRSU



#### Aims and activities of this organization:

Bonn-Rhein-Sieg University of Applied Sciences (BRSU), founded in 1995, has recently introduced a new strategy with a strong emphasis on internationalization and sustainability. New internationally oriented study programs have been implemented. The Department of Computer Science (CS) at BRSU has valuable experience running applied courses in computer science in close contact to industrial partners and has a focus on open source technologies. It hosts several technology centers focusing on variety of research areas in robotics, computer vision, autonomous systems, with emphasis on OSS in development and implementation. BRSU is a host of several OSS technologies and CS is a co-founder and multi annual host of the very successful open source conference and community FrOSCon. The CS department has over 600 students and about 20 faculty members. It offers bachelor, master, and joint doctorate degrees in computer science and variety of specialized disciplines.

#### The role of this organization in this project:

The CS Department at BRSU will lead the process of implementation of fundamental OSS infrastructure in PC institutions, building on its experience in OSS. It is strongly supported by various local student's initiatives (e.g. <http://www.luusa.org/>) and the annually mounted Free and Open Source Software Conference FrOSCon. BRSU maintains a successful partnership model with enterprises, which has helped in building a strong computer science program in Germany. BRSU has the interest to support PC institutions in cooperation with its EU partners in developing a partnership model to help build OSS communities through advanced OSS based technology education. Building on its best practices, BRSU will lead the project implementation as well as monitoring and quality control. It will contribute to all activities of the project, and its academic and administrative staff will be committed to the success of the project implementation and delivery in compliance with the project plan and EC rules.

## 2. German Jordanian University-GJU



### Aims and activities of this organization:

The German-Jordanian University (GJU) is a public university and is based on the German model of applied science university. GJU maintains a vibrant community of excellence in academic teaching, applied research, and community service. It offers a bachelor degree in 17 different programs mainly in engineering and technology and a master degree in 5 programs. The programs at the school of informatics and computing (SIC) are in Computer Science, Computer Engineering, and Communication Engineering. The programs are relevant to market needs and are closely coordinated with the German IT network and a dedicated industry advisory board. SIC strongly advocates open source among its faculty, students, and partners. It established partnerships with several companies and hosts an incubator in robotics, mainly used for student projects. GJU has a vision to lead efforts in open source for VM ware, distributed platforms, and variety of service applications.

### The role of this organization in this project:

GJU/ SIC will cooperate to achieve the objectives of the project in developing partnership with enterprises to build OSS communities and enhance technology education. It will improve the quality of its technology education by developing and hosting OSS technologies, services and applications. GJU academic staff will endeavor to develop partnership and help support OSS communities. Its main leading role in OSSCOM will be: (1) Leading WP.5 in developing partnership model; (2) taking a technical management role in the project (1.2); (2) dissemination and outreach (2.4); (3) hosting a national technology center; (4) developing partnership model (5.2); and (5) support quality and monitor of project activities (6.1). It will participate in all project activities as well, benefiting from EU partner experiences and building on its strong outreach to the communities as well as on its willingness to embrace new models of education and help incubate entrepreneurship and innovation.





### 3. Yarmouk University-YU



#### Aims and activities of this organization:

Yarmouk University (YU) was founded in 1976 with a mission to provide quality education to its students in the various fields of specializations at the BSc, MSc, and PhD levels. YU found that this cannot be done without the international collaboration with leading schools worldwide in both science and technology. Collaboration forms include sending students to pursue graduate studies as well as knowledge transfer via sharing projects development and implementations. One ultimate objective is to fuel economic growth and development of the country, and that would also contribute to human welfare and prosperity in its wider context. Student enrollment in the ICT-related degree programs at YU is about 3500 students in the undergraduate programs and about 1000 students in the graduate programs.

#### The role of this organization in this project:

A team from the Computer Engineering (CpE) department will be the main partner in this project. The CpE department has recently given special emphasis on the development and use of Open Source technologies, including the development of new course in the OSS. Currently, CpE students in their capstone projects are producing tens of applications, annually, using the Open Source technologies. Most of these applications are uploaded on the app stores and sold to get revenue. The great success of this experience has driven YU to strongly believe in building communities of expertise in the Open Source technology to boost more access to the ICT technologies and resources in the region and to overcome ownership barriers. Thus, YU role will focus all individual efforts in the department to the direction of building an in-campus community in OSS that can also ultimately incur a change in the region. Its leading role will be in 2.3: dissemination, 4.2: OSS material, and 6.4: business incubator.

#### 4. Talal Abu-Ghazaleh Information Technology International- TAGITI



##### Aims and activities of this organization:

TAGITI is a dynamic IT company specialized variety of ICT services, including open source software. For more than two decades, TAGITI has been implementing projects for variety of clients in IP, banking, education, and commerce. TAGITI is owned by TAG-Org, a globally leading professional service company operating in 81 offices worldwide. TAGITI has built excellent reputation in ICT consulting, software development, eGovernment solutions, and ICT training and capacity development in Jordan and abroad. Through a network of supporting TAG-Org sister companies, TAGITI maintains several partnerships with international ICT companies. It supports educational institutions in developing tool kits for business models and startups through joint projects with USAID and international donors. It has developed the concept of TAG knowledge Societies in communities and universities to provide equality of opportunities for all segments of society and to create professional environment entrepreneurs.

##### The role of this organization in this project:

Part of TAG-Org's premium goals is to be in constant pursuit of initiatives that support the local governments in their mandates towards a more productive, competitive and knowledge based economy, through providing funds, resources and the collective corporate support of all its companies. TAG-Org provides as well quality of varied ICT service offerings, including infrastructure, connecting a network server farms for online business, education, and hosting client services. TAGITI will play an active role in the project activities and in particular in assisting in the setup of technology centers, facilitating and configuring connectivity, and building communities of practice in open source technology and content development. It will also play an important role in the dissemination and outreach, as well as in developing the partnership model with enterprises. Its role will be WP.2 leader as well as Tasks: 2.1, 2.2 (setting up OSSCOM portal) and 3.3 (Technology Center).



## 5. Brunel University- UBRUN



### Aims and activities of this organization:

Brunel University is a dynamic institution with 13.000 students and 1.700 faculty operating in a vibrant culture of research excellence. In line with Brunel's vision to become a research-intensive institution through supporting and attracting world-class researchers, a significant increase in research activity and funding has taken place. Substantial investment in Brunel's research environment is providing state-of-the-art facilities for research, training and teaching. The Dept. of Information Systems and Computing (DISC) was ranked top in the UK in terms of 'Research Power' in the '08. Its main success is built on its partnership model with enterprise. It has the largest center for research in Information Systems/ Computing in Europe, giving it strength across a wide range of research areas, mainly in OSS. It provides a portfolio of strong technology courses situated along two main axes: Computer Science and Inf. Systems, benefiting from a strong inter-disciplinary focus.

### The role of this organization in this project:

A strong commitment to open-source solutions permeates the teaching and research of the Department; in particular, Dr Ghinea is currently researching the factors behind commercial contributions to open source software development as well as the implications that the open source movement has had on the proliferation of applications for mobile and portable devices. On the basis of this experience, Brunel University will contribute to the objectives of the project. Having already established teaching and research relationships with Bahrain, Norway, Saudi Arabia and Syria, the OSSCOM project is in line with the department's international strategy of disseminating and attracting best practice with partners worldwide. UBRUN will support OSSCOM in OSS content and resources, and will lead WP.4: Developing OSS material and will take a leading role in 5.3: developing a partnership model with Enterprise.





## 6. University of Castilla-La Mancha - UCLM



### Aims and activities of this organization:

University of Castilla-La Mancha (UCLM) was founded in 1982. It has a special focus on internationalization. The Department of Computing Systems (CS) at UCLM offers CS and CE courses in English. Within the Degree curriculum, the student has the possibility to carry out a set of practices with industrial partners, most of them developing their business based on Open Source. Furthermore, the Computing Systems Dept. develops its research activity at the Albacete Research Institute of Informatics (I3A), dealing with a wide range of research areas: robotics, cognitive systems, high performance computing, computer networks, sensor networks, software engineering, data mining, artificial intelligence and artificial vision, etc. The I3A belongs to the Albacete Technological and Scientific Park (PCyTA). The PCyTA hosts the Excellence Center for Open Source Software. The CS department has over 600 students and about 65 faculty members. It offers bachelor, master, and joint doctorate degrees.

### The role of this organization in this project:

Faculty of UCLM - CS have diverse backgrounds in Open Source Software and its application in industry. As one of the European partners, UCLM will contribute to the objectives of the project in terms of OSS expertise, partnership with industry, and research on professional learning. UCLM will help in developing OSS material, partnership model, and will also support in the design and delivery of the Professional diploma teaching and learning building on its experience. UCLM will participate in all project activities, and will support delivery of OSS learning resources to the society at large. Its leading role will be in WP.3: Building technology centers, as well as in tasks: 3.1, 3.2 (Technology Center), and 5.2 (Partnership model).



## 7. Notre Dame University- NDU



### Aims and activities of this organization:

Notre Dame University - Louaize (NDU) is a private, Lebanese non-profit Catholic institution of higher education which adopts the American system of education. As a Catholic institution inspired by the cultural and spiritual heritage of the Maronite Order of the Holy Virgin Mary, Notre Dame University - Louaize (NDU) seeks to provide comprehensive quality education that fosters excellence in scholarship, lifelong learning, enlightened citizenship, human solidarity, moral integrity, and belief in God. In designing its curricula, NDU is committed to the philosophy and standards of the American model of liberal arts education. Conceiving itself as an authentic academic community, NDU promotes diversity, respect for human dignity and rights, and concern for the common good. Its profound aspiration is to prepare its students to be future leaders who can exercise reason upon knowledge and shape a world of truth, justice, love and freedom.

### The role of this organization in this project:

NDU will cooperate to achieve the main goals and objectives of the project. It will improve the quality of its educational programs in computer science by developing and adopting courses in Open Source Software (OSS) technologies. NDU role in OSSCOM will be: (1) develop OSS technology material, (2) leader of task 4.1: OSS material and task 6.3: partner workshop on business incubators, and (3) participate in all project activities. NDU will work to build partnership with enterprises and promote the adoption of open source technologies as feasible alternatives to proprietary software in local communities and organizations. NDU will work very closely with LU to build TC as well as promoting entrepreneurship at the national level.



## 8. The Lebanese University- LU



### Aims and activities of this organization:

Lebanese University (LU) is a public institution of higher education offering B.Sc., M.Sc. Ph.D. degrees as well as continuing education diplomas in variety of fields. It was established in 1948 as a research university with a strong international orientation. Among various interests, LU puts emphasis on:

- development of applied higher education in various technical and professional fields, in line with the development of skills.
- Promotion of continuing education and the enhancement of professional experience and business skills.

LU has set up regional campuses in six regions of Lebanon, focusing on variety of disciplines. The computer science department as well as applied sciences and economics developed OSS tools to support on-line courses and various pedagogical, administrative, and Internet services, all running under LU.

### The role of this organization in this project:

LU will cooperate to achieve the main goals and objectives of the project. It will improve the quality of its educational programs in computer science by developing and adopting courses in Open Source Software (OSS) technologies. LU role in OSSCOM will be: (1) Leading WP.6: entrepreneurship model; (2) hosting national technology center (3.4); (3) developing material in OSS technology (4.4); (4) establishing partnership with enterprise (5.1); and (5) developing a framework to initiate a sample start-up/ spin-off company in cooperation with NDU (6.1). LU will participate in all project activities and will promote the adoption of open source technologies as feasible alternatives to proprietary software in local communities and organizations.





## 9. Information Management Ltd



### Aims and activities of this organization:

Information Management is a provider of information technology solutions for the banking, healthcare, education and distribution sectors. The products and services offered by IML are cost effective and leverage state of the art development tools, making them easy to use, striking to look at and, last but not least, reliable and enduring. Amongst the early adopters of OSS, our software department develops and maintains, challenging custom-made applications and ready-made systems that others hesitate to undertake. IML is in close contact with Universities, and offers remunerated internships to under and post-grads with, as a reward, the opportunity to discover the finest prospects in the software engineering field. IML integrated solutions rely on the best of breed computing, networking and printing platforms to secure long term uninterrupted services to customers. Over 33 years, IML has built a reputation of skill and integrity on the quality of its people and the respect of its clients.

### The role of this organization in this project:

Introducing the OSS alternative is a challenging and long term work. The discovery by the community of the OSS is in its infancy, helped by NGOs and universities who are promoting the concept. IML will offer opportunities to both developers and end users to benefit from the OSS initiative, by offering a proof of concept enterprise environment for its practical implementation and its promotion on the market. IML will develop and implement sample capstone projects proposed by LU and NDU, taking them from the drawing board to the real world, overseeing interns who will learn to create a product that will benefit its end-users. IML's experience in the infrastructure field will be put to good use for the setup of the technical center of the project, rounding up its contribution in all the project activities. IML will actively promote the use of OSS as viable alternatives on the market, opening the doors to helping those who are yet to benefit from the advances in OSS IT. Its role is in 6.2



## 10. Tarent AG - Tarent



### Aims and activities of this organization:

Since 1996, the name "tarent" has stood for competence in the conception and execution of mid-sized and large IT projects. Today the tarent group consists of several different companies. The public limited company tarent AG extends a common financial structure over these undertakings. It also offers a unified operating environment with administration, accounting, human resources management and all other essential departments. This includes platforms upon which the know-how of the individual companies is pooled and made available. In this way, as in practice the employees of individual fields together with clients find the best possible solutions, our divisions also exchange their knowledge within the group to achieve the necessary synergy. All shares in the public limited company are held by people actively working in the companies. Thus tarent AG is completely self-financed.

### The role of this organization in this project:

Tarent makes its revenues with a pure Open Source Business Model, and has therefore developed an excellent expertise how to monitor Open Source. Open Source has a lot of opportunities, especially for IT startups as we experienced in the history of the company. We like to share this experience because we believe, that the Open Source Ecosystem needs as much players as possible to deliver enterprise open Source Solutions to customers and public bodies. Our role in the project will therefore be: (1) Consultancy on Open Source Strategies; (2) Consultancy about how to integrate the Open Source Communities in the business model; (3) Development of Open Source Marketing concepts; and (4) Integrate university and other educational partner in an a partnership model. Its long-standing experience with Open Source software gives Tarent the opportunity to support BRSU in this project (WP.7, Task 4.5, 7.3). In this way Tarent has the possibility to supply its experience data with IT projects.

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