

Open Source Software in Science and Technology

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Questions to be addressed

- ▶ Going deep or going wide?
- ▶ What is the motivation/content/objective of this talk?
- ▶ Who is in the audience?
- ▶ Which kind of stakeholders are listening?
- ▶ Whom do we need to convince?
- ▶ Of what?
- ▶ What are the opportunities?
- ▶ Whom do we need to involve?
- ▶ What is OSSCOM?
- ▶ What is OPEN?
- ▶ When does the conclusions come?

- ▶ Historic review
 - ▶ Why Open Source?
 - ▶ Target groups and developers
- ▶ Technology driven development (world wide)
- ▶ „Open Science“, „eScience“,
- ▶ Paradigm shift
- ▶ Fundamental „human right“
 - ▶ „Free“ (barrier free) access to online sources / internet / digital content provided by communities
 - ▶ Right to communicate (digital)



Why open source?

- ▶ Availability of sources
- ▶ Integration without barriers
- ▶ Reduction of costs
- ▶ Increasing diversity, devitalize monopolies
- ▶ Quick and flexible adaptation of software and services
- ▶ IT security improvement
- ▶ Sparking innovation/entrepreneurship even outside of IT and CS
- ▶ Training and education



Protest during a Bill Gates talk at Peking University in 2007, source: zedomax.com

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 - ▶ Why Open Source?
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- ▶ Services **and** infrastructures
- ▶ Private cloud as testbed (academia)
- ▶ eScience (my perspective)
 - ▶ Research and Education Networks are not only for HPC
 - ▶ Services for almost all fields of research/science/knowledge
 - ▶ What are the consequences?
- ▶ Researcher and scientists are the front runners
- ▶ All people are targetted !

- ▶ Some fundamental software modules (OS, text editing, messaging systems, etc.)
- ▶ Mandatory to run (any) business (at all)
- ▶ Completely new business cases
 - ▶ Not (only) related to IT and CS
- ▶ New community services

- ▶ Quick and flexible adaptation of software and services (driven by the communities)
- ▶ Opens up opportunities for innovation
- ▶ IT security improvements
- ▶ Increasing diversity, devitalize monopolies
- ▶ Reduction of costs (access to IT services, running a business, communication, ...)

- ▶ Whom do we need to involve?
 - ▶ Stakeholder, policy maker, government representatives, instructors, teacher, business people, communities ---- everybody!
 - ▶ Support and promote the availability of OSS / FOSS

- ▶ Partnership with Enterprises Towards Building **Open Source Software Communities** and Rejuvenation of Technical Education and Innovation
- ▶ Why OSSCOM?
- ▶ What is it about?

Challenges and Motivation

- ▶ Main challenges
 - ▶ High cost of access and adoption
 - ▶ Large spending of software licensing
 - ▶ Lack of awareness in OSS and its potential
 - ▶ Lack of skillful workforce in OSS technology
- ▶ Motivation
 - ▶ Support wider and lower cost adoption of technology resource
 - ▶ Increase diffusion of OSS in key sectors
 - ▶ Create awareness and opportunities for more knowledge and technology innovation
 - ▶ Setup business acceleration facilities to support job creation
 - ▶ Build technology hubs for increased diffusion

Main goal:
Building links
between HEIs and
private sector
towards a wider
spread of OSS

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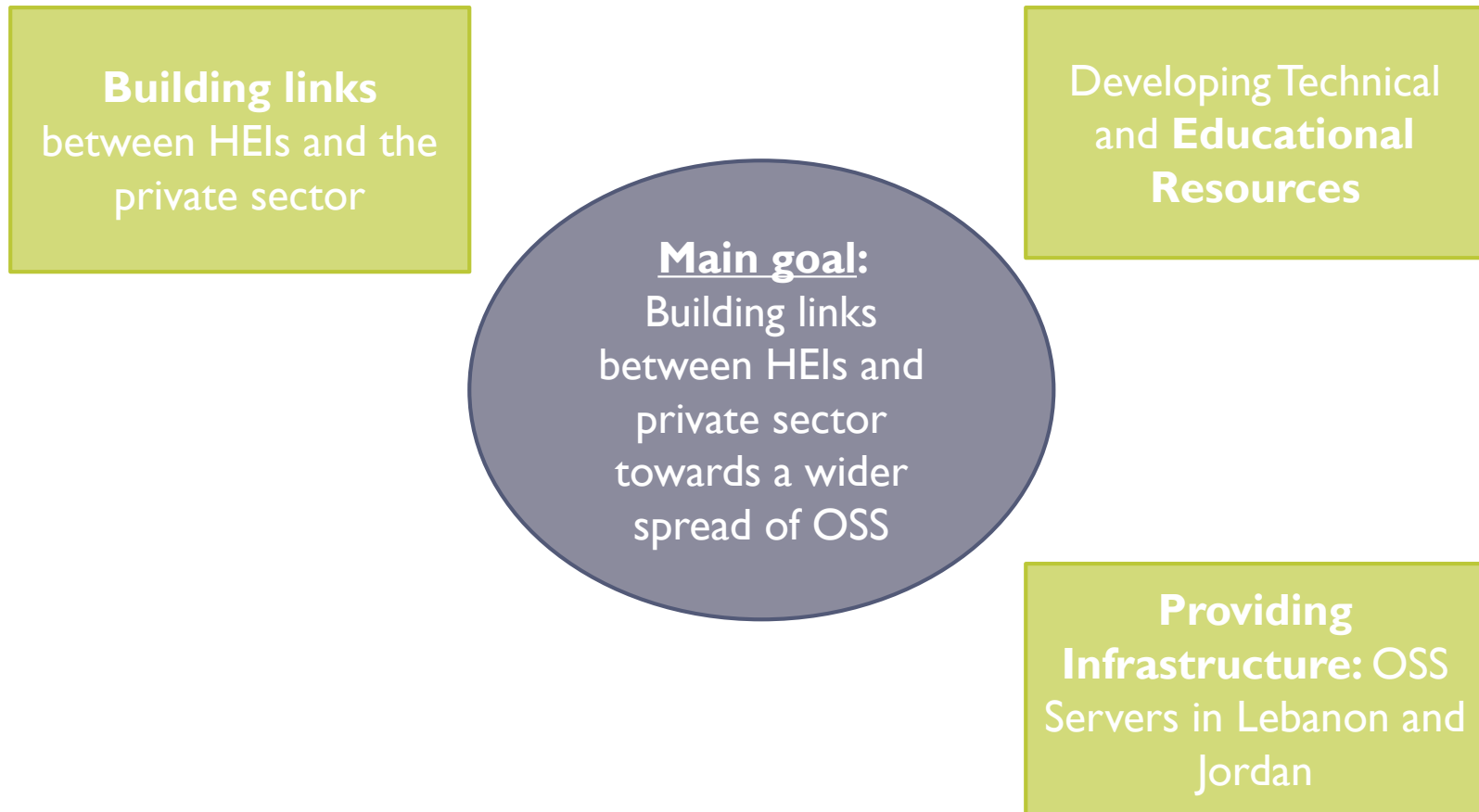
Objectives

Building links
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private sector

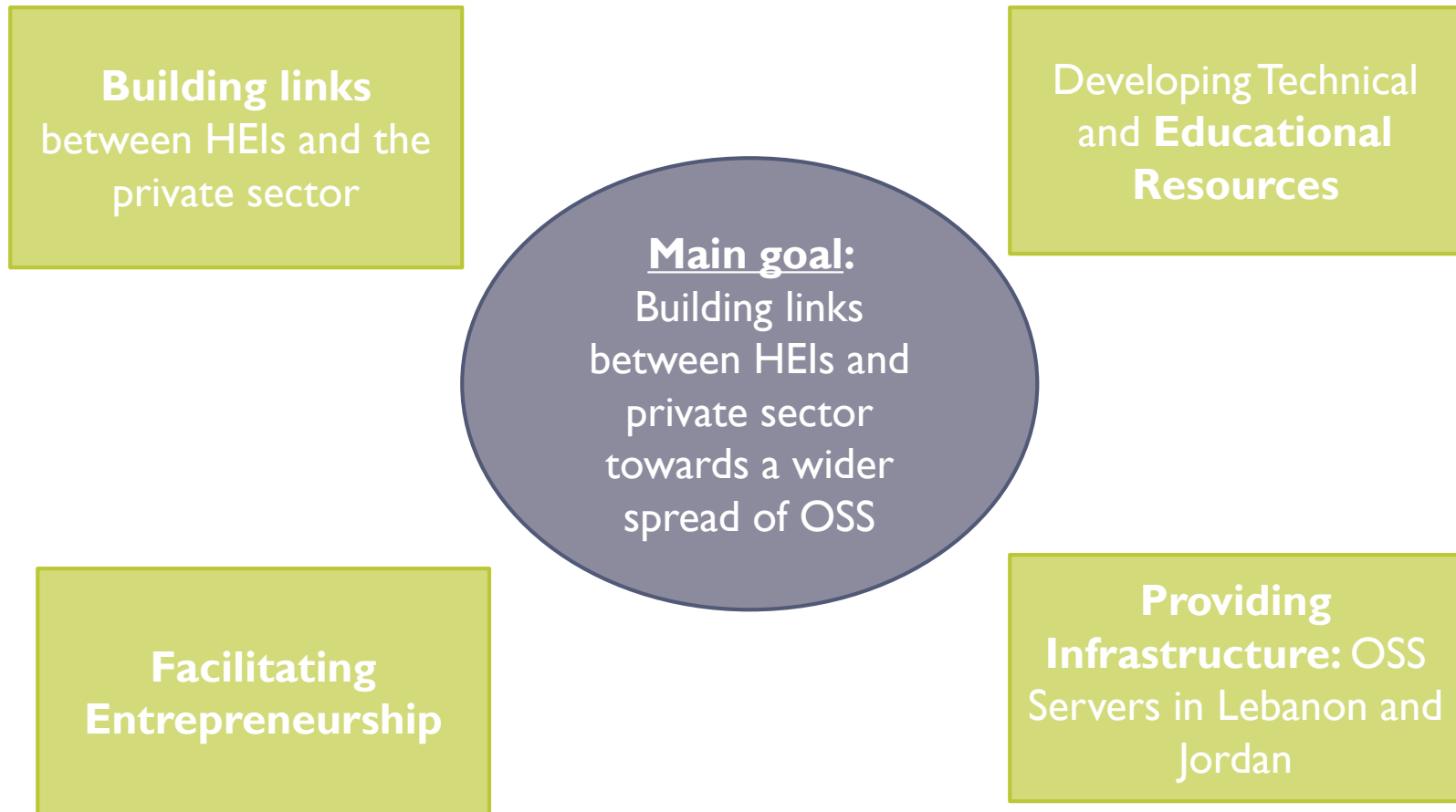
Developing Technical
and **Educational**
Resources

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Objectives



Objectives



Partner country institutions



Jordan:

German Jordanian University
Yarmouk University
Talal Abu-Ghazaleh
Information Technology
International

Lebanon:

The Lebanese University
Notre Dame University
Information Management Ltd.

European institutions

Germany:
Bonn-Rhein-Sieg University
of Applied Sciences in
Sankt Augustin
tarent AG in Bonn

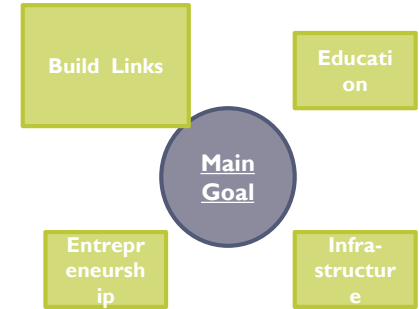
UK:
Brunel University in
Uxbridge/London

Spain:
University of Castilla-La
Mancha in Albacete



Activities

Building Links between Higher Education Institutions and the Private Sector:

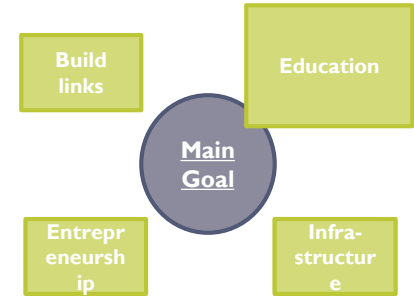


- Liaison Offices at HEIs
- University-Enterprise Partnership Model
- Capstone Projects

Activities

Developing Technical and Educational Resources:

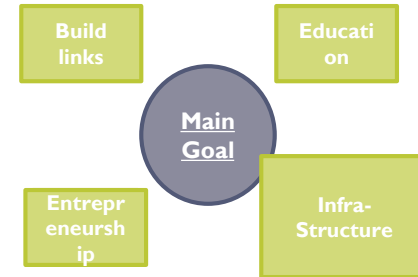
- Staff exchange / Capacity Building
- Revision of Curricula
- Online-Inventory of Learning Resources
- Executive Professional Diploma Program



Activities

Establishing OSS Technology Centers

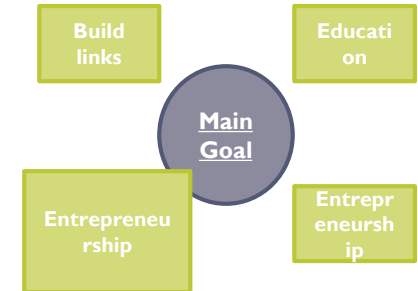
- Blueprint
- Procure and Install Hardware
- Training and Technology Workshops



Activities

Promotion of Entrepreneurship at HEIs:

- Technology Parks
- Model of Incubator and Business Accelerator
- Workshops and Training
- Sample Start-up / Spin-off



Bonn-Rhein-Sieg University of Applied Sciences:
Business Campus in Sankt Augustin

- ▶ **O**pportunity **P**latform towards transformative higher **E**ducation and innovative research **N**etwork
- ▶ German-Arab University Partnership of Moroccan partners and German HEI (to be funded by the DAAD)
 - ▶ University Mohammed V in Rabat (UM5A)
 - ▶ Cadi Ayyad University, National School of Applied Sciences in Marrakesh (ENSA)
 - ▶ National Centre for Scientific Research (CNRST)
 - ▶ Arab State Research and Education Network (ASREN)
 - ▶ Bonn-Rhein-Sieg University of Applied Sciences (BRSU), Germany (grant holder)
- ▶ Learning opportunities (by exchange and mobility)
- ▶ 2016-2017

- ▶ Raising awareness for OSS/FOSS
- ▶ Promote a new culture of sharing, “invest in new openness”
- ▶ All people are targetted and should be involved!
- ▶ Research communities still play an important role
- ▶ Education and training have to be guided to OSS/
new culture of sharing/ IT-services as commons
- ▶ Convince policy markers and government
representatives

Thank you for your attention!

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Tempus

