ERA in Action - 17 April: 2013 Excellence and cohesion: how can mobility strategies contribute to the European Research Area?

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My expertise in:

EU-US/Canada co-operation in higher education

- **Erasmus Mundus Joint Doctoral Programme**
- **EIT / KIC Mobility Programmes**

AtlantisProgram since 2007

EU-US/Canada co-operation in higher education and training

- **Transatlantic Degree**: the programme supports partnerships between EU and US institutions to establish joint study programmes – including joint/double degrees – and exchanges of students and staff;
- **Excellence in Mobility projects**: these provide funding to joint consortia for student and staff mobility;
- **Policy-oriented Measures**: these address comparative higher education and vocational training issues, and promote dialogue on recognition of qualifications and accreditation;

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ERASMUS MUNDUS II (2009-2013)

Cooperation and mobility programme in the field of higher education for:

- the **enhancement of quality** in European higher education;
- the promotion of the European Union as a **centre of excellence** in learning around the world;
- the **promotion of intercultural understanding** through cooperation with Third Countries as well as for the development of Third Countries in the field of higher education.

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ACTION 1 Joint masters and doctoral programmes including a scholarship scheme

- Designed and implemented by a **consortium of European universities** from at least **3** different countries. (Applicant: EU HEI)
- Consortia may also include universities from **other parts of the world.**
- **Scholarships/fellowships** are open to higher education students and academics from all over the world.
- Programmes include obligatory study and research periods, in at least 2 universities and award **recognised double, multiple or joint degrees.**
- If selected, **funded for five consecutive editions** of the joint programme.

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Example

Graduate Competitiveness

- SELECT+ will become one of the worldwide most reputed Joint Doctoral education programmes in the field of Sustainable Energy by the year of 2016

- It will attract top graduate students from around the world and deliver suitable engineering PhDs to the industries operating in this field

- Doctoral students graduating from the SELECT+ will have a competitive advantage over their fellows due to having experienced the following:

✓ Training in multidisciplinary problem analysis and solving

✓ Working in multinational environments

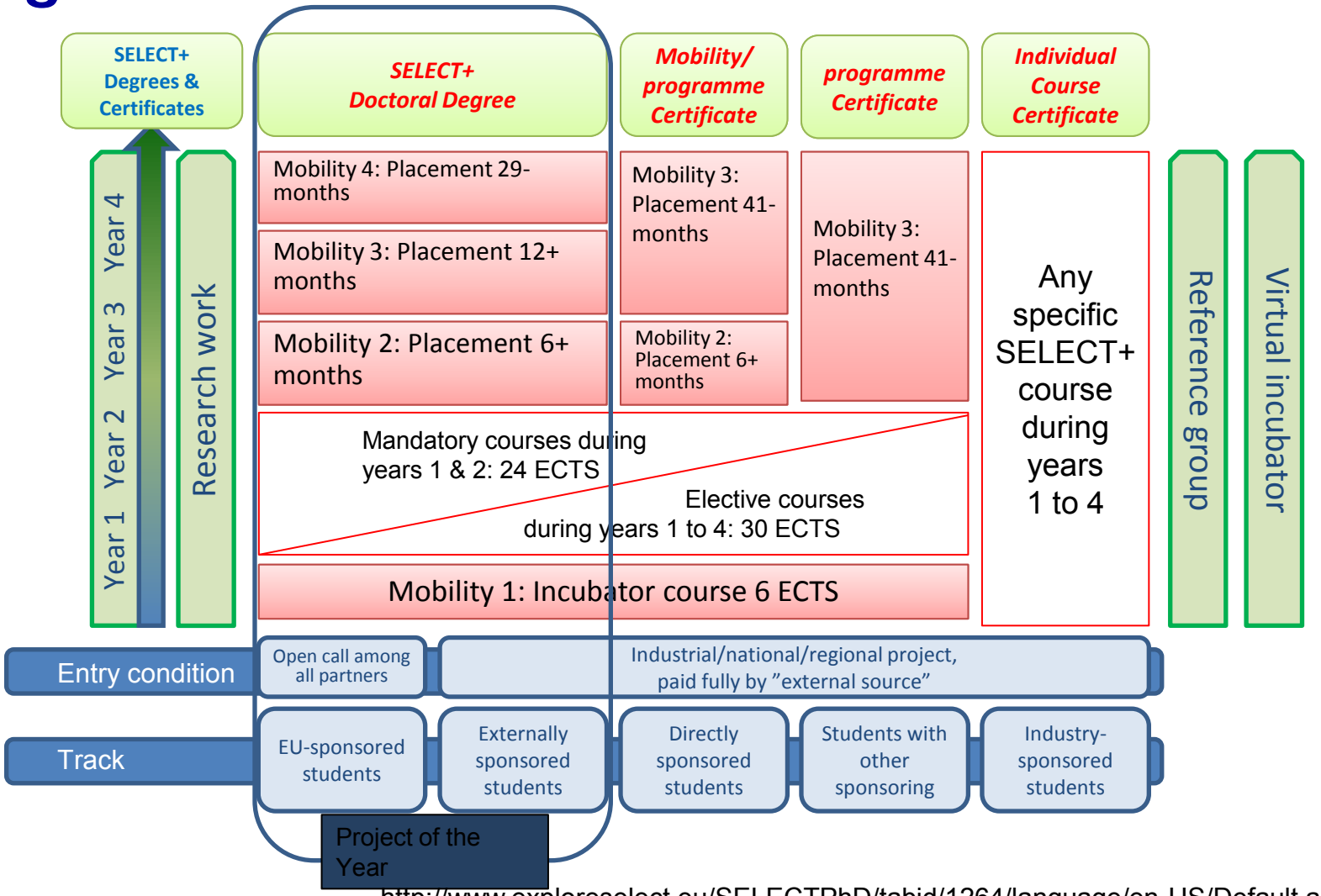
✓ Entrepreneurial & innovative skills & business approach

✓A novel and multidimensional way of learning involving real and virtual classrooms so as to bring specialists together

✓ A unique network of fellow PhD students, SELECT+ alumni and industry specialists in the field of sustainable energy

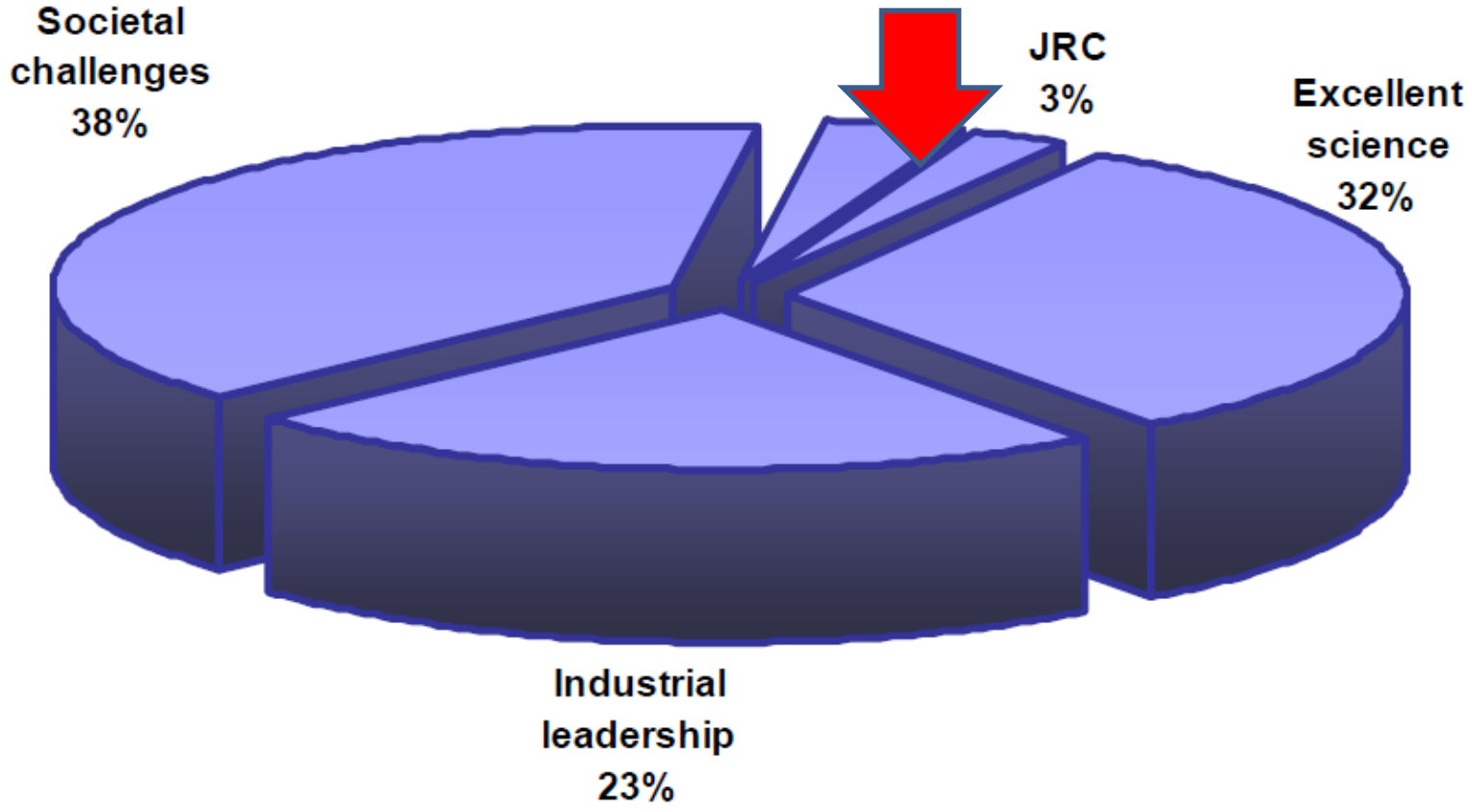
http://www.exploreselect.eu/SELECTPhD/tabid/1264/language/en-US/Default.aspx

Programme Outline



http://www.exploreselect.eu/SELECTPhD/tabid/1264/language/en-US/Default.aspx

Proposed funding (% of total budget 2014-2020)



www.ec.europa.eu/research/horizon2020

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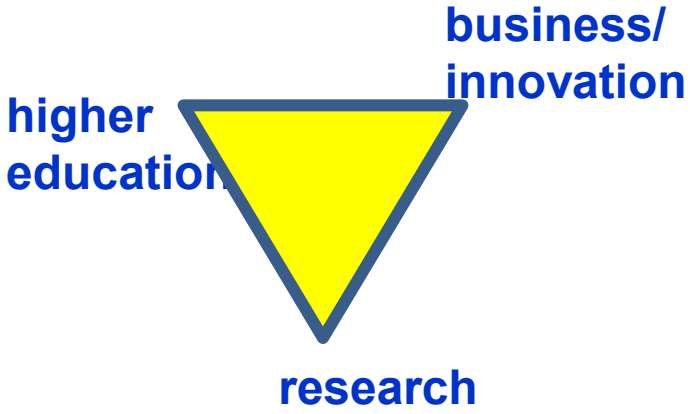
The European Institute of Innovation and Technology (EIT)

Mission: To contribute to sustainable European economic **growth** and **competitiveness** by reinforcing the **innovation capacity** of the Member States and the EU…

Concept: … by promoting and **integrating higher education, research and innovation** of the highest standards (the **knowledge triangle**)



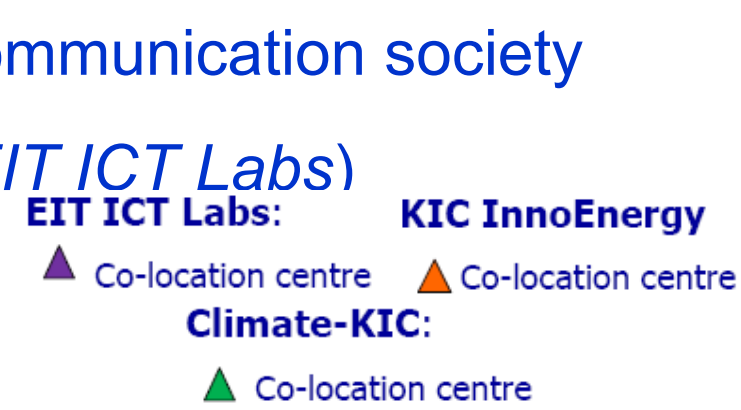
EIT – **objectives**

- New **business creation** through innovation
- The transfer of higher education, research and innovation activities in a business context (the **knowledge triangle**)
- Cutting edge and **innovation-driven research** in areas of key economic and societal interest
- Development of talented, skilled and entrepreneurial **people** through education and training activities
- Dissemination of best practices and systemic **knowledge sharing**

EIT operations – **KICs'**

The EIT designated its three first KICs in December 2009:

- sustainable energy (*KIC InnoEnergy*),
- climate change adaptation and mitigation (C*limateKIC*)
- future information and communication society (*EIT ICT Labs*)

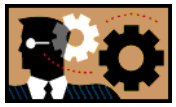


www.ec.europa.eu/research/horizon2020

KIC InnoEnergy structure

http://www.kic-innoenergy.com

KIC InnoEnergy operation



Innovation

Education

SECoal

EcoStoker

BIOIMMERSE

BioEcoMatic

CoalGas

EGOR-CO_2

EUNGasLAB

ACoPP

CCS OnShore

Practice

Skills

Generic master

6 thematic masters

PHD School

Learning Modules

Entrepreneurship

Market Knowledge

Technical relevance

Consortium

Business creation

Idea exploration

Technology transfer

Services

Needs

Europe/USA Mobility Exchange in Engineering: Why Is It Less Attractive to the American Students?

Paper published: Andrew Kornecki, Wojciech Grega, Avelino Gonzalez, *Europe/USA Mobility Exchange in Engineering: Why Is It Less Attractive to the American Students?* , Proceedings of the International EAEEIE'2010 Conference, Palanga 2010

AtlantisProgram since 2007

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Atlantis -DeSIRE Project Partners

- *AGH:* AGH University of Science and Technology
  Kraków, Poland
  EU lead institution
- *ERAU*: Embry Riddle Aeronautical University,
  Daytona Beach FL, USA
  US lead institution
- *University of Arizona, USA*
- *University of Central Florida, Orlando, USA*
- *BUT*: Brno University of Technology
  Brno, Czech Republic
- *LAG:* Grenoble Universités (Institut National Polytechnique de Grenoble and Université Joseph Fourier Grenoble)
  Grenoble, France

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Mobility in European and US Perspective

- Erasmus is the EU's most popular mobility programs, enabling EU students to study abroad each year, as well as supporting co-operation between higher education institutions across Europe. The program caters not only for students, but also for faculty who wants to teach abroad or who want to be trained abroad. Around 90% of European universities take part in Erasmus and almost 2 million students have participated since it was started in 1987. The European Commission aims to reach a total of 3 million students involved by 2012 . The annual budget of the Erasmus Program is in excess of €440M, with more than 4,000 higher education institutions in 31 countries participating
- Erasmus Mundus is a cooperation and mobility program designed to enhance the quality of European higher education and to promote European higher through cooperation with Third World Countries. New Erasmus Mundus II (2009-2013) supports Joint European Master and Joint Doctoral programs with the budget of €493 million

Mobility in US Perspective

- Considering the data from 2007-2009, the ratio of incoming to outgoing students is the USA is 3 to 1. About 262,000 American students studied abroad in foreign countries while the number of international students enrolled in U.S. universities and colleges in 2008/09 was over 672,000.
- Global Engineering Education Exchange (Global E3) is an international exchange program for engineering students at participating universities. The program allows students to take courses overseas for credit at their home institutions, and receive practical education within the systems of another country
- Majority of the American universities support very popular Study Abroad Programs, where an organized group of students visits a foreign country with a supervising faculty during the course of short summer term taking classes and learning the host country language and culture. The majority of study abroad participants choose to study abroad for eight weeks or less

Issues

We identified four major issues as the main obstacles in encouraging American engineering students to spend semester abroad:

- Argument: „universality of engineering”
- Course Recognition
- Information Provision
- Financial Situation
- Logistics

Issues

- The issue **of universality of engineering** has been the easiest to overcome by arguing that even though engineering science is indeed universal, engineering practice is not. This may include the use of the metric system and other design standards, but more importantly, how design decisions are made in other countries.
- By studying and learning about how engineering is taught in other countries, they may also see how engineering is practiced there. This can give the American students a significant advantage when in the market for professional positions, especially in multi-national companies or those that do significant business overseas. By and large majority of students have bought into this.

Course Recognition

- The DeSIRE institutional agreements state that Atlantis mobility students are entitled to expect full academic recognition from their home university for credits achieved during the ATLANTIS study period, in accordance with the Learning Agreement. Project partners' universities had a clearly defined transfer system between ECTS and American credit hours
- However, there were differences in the procedures of signing the Learning Agreement and course recognition between the European and the American universities. Generally, EU universities are more flexible allowing the students to choose courses (it is one result of 13 years of Erasmus experience), while some US universities tend to have more rigid control of the course selection. One of the concern here is the ABET accreditation rules of American engineering programs. In the US the academic program coordinators and student academic advisors are involved to assure that the courses abroad match the courses they suppose to be replacing. Occasionally confusion arose in credit calculation from local or national credit hours systems (in the US) to accepted in Europe ECTS credits and vice versa.
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Financial Situation

- Financial obstacles are not too significant for the EU students. ATLANTIS stipends cover living costs and travel expenses. Tuition fees paid at home university (EU) are comparatively low (and often the tuition is free)

- Financial situation is considered much larger obstacle to the US students. The travel stipend is lower than the grant offered to the EU students. Only in some cases, students are able to cover from the scholarship all living costs, travel expenses or tuition fees (paid at home universities) when studying abroad.

- Scholarship is often not sufficient for American students who may leave behind part-time jobs, apartments with leases and car payments for a car they will not use for six months. In USA, majority of students have to work in order to cover their living costs during the study period.

Logistics

- Logistical issues include the differences in academic calendars, where some European universities have different starting and ending times that do not align well with the US academic calendars. The perception is that students would lose one semester because of this misalignment and thus prolong their period of study and reduce opportunity of on-time graduation.

- Other logistical issues include, the difficulty in arranging travel, visa, accommodation, and other logistics in preparation for a semester of study abroad.

Information Provision

- The EU recommendations that the course acatalogue "should be published on the institution's website so that all interested parties can easily access it (sufficiently in advance for students to make their choices)" re often not fulfilled. Some universities publish the last updates concerning courses for international students quite late. Often European universities provide information only in the local language. Host universities are late providing course schedules, descriptions and other related information. Consequently, the exchange students and coordinators have problems to specify their Learning Agreements.

- Students need more practical information not only regarding the academics but also in all spheres concerning exchange. Specifically, they need step-by-step description of required administrative procedures. Students need more practical information about studies and university-life as well as all practicalities of settling in a new country.

Conclusions

- Globalization is a mechanism to integrate economic, political, and cultural systems across the globe. International student mobility has grown rapidly in the last decade becoming an important factor of higher education. Student mobility is supporting globalization by familiarizing young people with a concept of different cultures and languages, different work habits and custom. Diversity drives creativity.
- Financial issues have been more difficult to handle. The students that have successfully sought to go abroad have been those that either did not have financial problems, and that overcame the logistical resistance of our academic system.
- The last one, logistical issues, is where most progress can be made. While the re-alignment of academic calendars is hopeless, better systematic ways to provide attractive coursework and a better system to identify such courses could be done. We are currently working hard to make that obstacle disappear through better advisement, computerized access to coursework abroad, and other such measures.

Thank you!

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