Ghent University – Central & Eastern European R&I Cooperation Day

RE-SIZED:
An ERA CHAIR project at UMONS

June 14th 2018 – Marc Frère
Content

- ERA Chair project objectives
- Birth of the RESIZED project at UMONS
- The RESIZED project
- Project Main outcomes
- Comments (problems encountered, advices, lesson learnt)
ERA CHAIR project

What?
• Strengthen the excellence of research activities in Universities and Research Institutions.
• Develop research activities as a support for economic and social development in a given domain of regional smart specialization.
• Reinforce the capacity of the granted institution in terms of research funding.

How?
• Create a Research Team head by an ERA Chair Holder (high level recruitment criteria).
• R&D Action plan in a topic related to regional concern.
• Networking with stakeholders and project proposal building plan.
• Dissemination plan.
• Project monitoring: impact of the project on the Institution, institutional changes.
How the RE-SIZED project was born at UMONS?

- Young University created in 2009 from the merger of previously existing institutions (some of them being old):
  - Université de Mons-Hainaut
  - Faculté Polytechnique de Mons
  - Ecole d’Architecture de la ville de Mons (2010)
- Dynamic spirit and opportunities for creating new structures.
- Creation of 10 Research Institutes: collaborative platforms for R&D activities inside UMONS (mix of competences for dealing with societal topics).
- Objectives of UMONS in line with ERA Chair project objectives:
  - UMONS is in the Province of Hainaut:
    - Most populated province of Belgium, world Center of the Industrial Revolution, industrial decline in 1970.
    - Lowest income/inhab., lowest number of highly educated young people/1000 inhab.
How the RE-SIZED project was born at UMONS?

• UMONS commits itself to change the situation:
  • Action plan for rizing the number of highly educated young persons in the province - since 2009, students growth rate: 5 to 10% per year (mainly coming from Hainaut), new education programmes will be organized in Charleroi.
  • Action plan for improving the UMONS influence on the local economy.
  • Action plan for R&D excellence.

• Research Institute for Energy was identified as a promising structure.
• ERA Chair Pilot call 2014: Most promising RIs were encouraged to take part to an internal selection procedure and then to apply to the call.
The RE-SIZED Project

- To develop a new Research Activity related to Net Zero Energy City Districts based on:
  - The experience of 5 UMONS Dpts (within the RI for Energy).
  - Gathered in a new collaborative Team: ERA Chair Team head by an ERA Chair Holder.
  - Tools and methodologies for Zero Energy City District design.
- To enhance the scientific performances (Publications, Conferences, PhD, patents, etc.).
- To enhance the international visibility:
  - International recruitment procedure.
  - Participation to international strategic events and working groups.
- To enhance R&D results impact on regional economy (demonstration project).
- To enhance the project funding performances.
- To develop a professional management policy that ensures the objectives to be achieved.
The RE-SIZED Project

**URBAN-TRMI-TRMO-AUTO**
- Manually controlled components:
  - Windows
  - Heating
  - Electric lighting

- Energy production components:
  - Wind turbines
  - PV systems
  - Geothermal energy

- Automatically controlled components:
  - HVAC
  - Lighting
  - Safety
  - etc

**TRMO-AUTO-ELEC-TELEC**
- Building automation
  - Actuators
  - Interfaces for increased energy awareness

**URBAN-TRMI**

**ELEC-TELEC-URBAN**

UMONS Research Institute for Energy
The RE-SIZED Project

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SCIENTIFIC SUPPORT

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SMART GRIDS

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The RE-SIZED Project

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SUPPORT TO COORDINATOR

BARBARA MARCHI, LUDOVIC URGEGHE, GERARDINA CURCIO,
JULIEN LEFEVERE, TTO SUPPORT

LUIS CANDANEDO

GONÇALO PINTO MENDES

PUNCTUAL RECRUITMENT AND INVITED RESEARCHER
Main outcomes – R&D – Examples
Main outcomes – R&D – Examples

Simple and reliable tools for buildings thermal behaviour simulation.

Complex heating systems at the city district level: design rules and performance simulation.
Main outcomes – R&D – Examples

Design of standalone e-bike station with PVs in SketchUp

Low-cost implementation of portable air pollution monitoring device

Energy analysis of standalone e-bike station with PVs in HOMER

On-field calibration for monitoring particulate matter (PM) concentrations
Main outcomes – R&D and education programmes

• Up to 60 publications.
• Education programmes for PhD students (ERA Chair Team).
• New courses based on the R&D results.
• New education programmes (Specialized Master).

Main outcomes – Networking with stakeholders and project funding performances.

“Aggressive” policy of presence in main events at the national and international levels + specific contacts with stakeholders:
• EU infodays.
• Scientific and technical workshops.
• COST Actions.

New projects:
• ERDF project on smart cities in Wallonia.
• ERASMUS MUNDUS on smart cities and communities.
Main outcomes – project monitoring and structural changes.

• KPIs dashboard and performance evaluation.
• Recommendations for improving administration processes.
• Recommendations for organizing R&D activities.
Comments - Call

Pilot Call: No experience. What is really important? What is less when running the project?

Project at the level of the Institution: What is the level of involvement of the Institution as a whole? What does involvement mean?
  - ERA Chair Unit independence?

Call objectives:
  - Sustainability of the project in five years: not so easy

Call requirements:
  - ERA Chair Holder is not the project coordinator.
Comments-Proposal

Proposal content very ambitious in terms of:

Structure

ERA Chair within a Research Institute working in collaboration with R&D&I Dpts and with AVRE (= EU Office) with part time persons.

Content:

- Very multidisciplinary aspects.
- Quite complex managing structure.
Comments-Proposal

Administrative problems due to:

- Complexity of the Structure of the Project (Research Institute + Research units).

- Non independence of the ERA Chair Unit on the administrative point of view.

- Complex internal procedures.

- Administrative documents are in French.

- UMONS was still in its merging process for some aspects (Research Institute structures, uniformization of procedures).

- UMONS as a State University is working in a quite strict legislative framework.
R&D&I calls at the national/regional level:

Lot of calls with limited budget and very specific call objectives.
Lot of structures for funding at different political levels.

Private stakeholders/Public stakeholders and Policy:
Established contact – new contacts
Thank you for your attention