Call for the Entrepreneurial Research Initiatives

Carnegie Mellon Portugal Program
2006-2017

Education, Research and Innovation Ecosystem

The information on these slides does not replace or override any requirements set forth in the Regulations or the Announcement of the Call for Proposals.
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- Goals for Phase II
- Core Instruments
- Entrepreneurial Research Initiatives (ERIs)
Who the Program Is

Carnegie Mellon University

Companies

Portuguese Universities

Faculty and Researchers

Portuguese Research Institutions
What the Program Does

- **Talent Development**
- **Technology Entrepreneurship**
- **Collaborative Research**
- **Industry Partnership**

Universities

Companies

Carnegie Mellon University

Faculty and Researchers

Associate Laboratories
What the Program Has Achieved

- New Knowledge in ICT
- Collaboration between Portuguese Universities
- Cooperation with CMU
- Strategic University-Industry Collaboration
- Visible Institutional Development
- Self-sustaining Professional Masters
- Initial Economic Impact
What the Program Has Achieved

- 14 Dual Degree Programs
- ~300 Dual Degree Students
- > 300 Faculty Members
- > 200 Alumni
- > 200 Faculty Exchanges from Portugal to CMU
- 25 Collaborative Projects
- Impact in 82 Companies & Creation of 9 Startups

Information and Communication Technologies Institute
Carnegie Mellon | PORTUGAL
AN INTERNATIONAL PARTNERSHIP
What is the Program’s Impact

New Advanced Capabilities in Industry
- PT: PT Security Lab
- Novabase: Software Engineering Group
- Priberam: Machine Learning Research
- CGI: R&D Center in Madeira

Improved Products and Services
- RadiTaxis: higher efficiency, improved customer service
- Outsystems: enhanced security in web application platform
- Startups: new products and services

New Sustainable Institutions and Programs
- Madeira Interactive Technologies Institute
- Electrical and Computer Engineering MS / MBA Dual Degree (Porto Business School and CMU)

Research with Real-world Impact
- Vehicular network testbed with 465 cabs in Porto
- Energy efficiency system for datacenters
- Wearable technologies tested by firemen corporations
- Automatic speech translation and reading practice prototypes
> 82 Organizations
Will consolidate and extend the work started in Phase I

- Pursuing more ambitious international collaborations, integrating talent development, research and partnerships with industry.
- Fostering and strengthening the support to technology commercialization.
- Further promoting early stage exploratory collaborations.
- Addressing a refocused set of strategic areas.
The Program’s Strategic Areas

Future Internet Architectures and Business Models
Large Data Analysis for Network Engineering and Consumer Analytics
Secure and Dependable Software-Intensive Systems
Intelligent Electric Power and Smart Transportation for Sustainable Mobility

Information and Communication Technologies

Human-Computer Interaction
Technology Policy and Entrepreneurship
Applied Mathematics
Core Instruments

Talent Development
- Dual Degree Graduate Programs
- Internships in Top Companies
- Faculty Exchange Program
- Distinguished Visitor Chairs

Joint Research and Commercialization
- Entrepreneurial Research Initiatives (ERIs)
- Early Bird Projects
- Entrepreneurship in Residence

Industry Affiliates
- ICT Forum

Open Call for Proposals
(deadline October 16, 2013)
What an ERI Is

- **International innovation engine** that integrates research, education, innovation and industry collaboration.

- **Link scientific discovery** to technological innovation, to advance technology and to **produce graduates** in science, engineering, management and policy who will be **creative innovators** in a **global economy**.

- The first call will remain open until **October 16, 2013** (5pm Lisbon time), and will award:
  - **€ 6 million**, half in Portugal and half at CMU, to support **4 to 7 ERIs**.

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For a maximum period of 4 years.
The Key Features of an ERI

- A vision for bridging research to innovation and developing innovative and competitive talent;

- A strategic plan for research, education and innovation, with a path to sustainability;

- A cross-disciplinary research program enabler of innovation;

- Cross-cultural global research, education and innovation experiences;

- An education program that uses CMU Portugal’s dual degree programs;

- An innovation program that includes partnerships with startups and/or established companies.
What ERIs Should Combine

- Research, education, and innovation, at an international scale
- Advance science-based discovery and technological innovation
- Experimentation and collaboration
- Cross-disciplinary international teams
- Cross-national training of human resources
- Industry, in a variety of modes
- Academia, companies, markets, and end users during all stages of activity
- Academia, companies, markets, and end users during all stages of activity
The Mission of an ERI

Stimulate and promote Portuguese innovation in Information and Communication Technologies (ICT), by acting as international innovation engines, embedded in global knowledge and business networks, to train creative innovators, generate new ideas and translate them into products, processes and services.
Academia Participation in ERIs

- The proposals must have at least two partner Portuguese research institutions, one company, and Carnegie Mellon University.

- **Principal Investigator:**
  - The lead Portugal PI should be a faculty member, with a doctoral degree relevant to ICT, or with substantial career experience in ICT.
  - The lead Portugal PI shall be dedicated to the project, according to the duration of the proposed activities, at no less than 35%.
  - The lead PI at CMU must hold a faculty appointment at CMU.
Industry Participation in ERIs

**Contributions**
- Guidance on planning, research, education and innovation;
- Promote a culture of innovation and internationalization;
- Knowledge of product/service design and manufacturing/delivery;
- Complementary support: financial and/or in-kind (people, data, facilities, equipment).

**Benefits**
- Solutions for industry problems;
- Creation of competitive or complementary products and services;
- Development of capabilities and best practices;
- Insights on performance improvement;
- Visibility and access to international knowledge networks.

**Collaboration framework**
- Supported by scope, function and IP agreements.
Illustrative Example of an ERI

DRIVE-IN Research Project

Universities
- Universidade do Porto
- Universidade de Aveiro
- Carnegie Mellon University

Research Labs
- IT
- CITTA
- LIACC

Companies
- RadiTaxis
- NDRIVE
- Geolink

Public Organization
- IMTT
Illustrative Example of an ERI

DRIVE-IN Research Project

Real World Problem
Scientific Challenges
Talent Development
Experimentation
Company Involvement
Outcomes

Traffic Safety
Next Generation Networks
Ph.D. Students
Testbed
Additional support
Experimentation
Spinoff – VENIAM
Startup – GEOLINK

Vehicle and Road Utilization
Vehicle User Experience
Post-docs
Experimentation
2 Patents

European and FCT Projects
Complementary solutions - NDRIVE

FCT Fundação para a Ciência e a Tecnologia
Ministério da Educação e Ciência
Information and Communication Technologies Institute Carnegie Mellon | PORTUGAL
AN INTERNATIONAL PARTNERSHIP
ERIs at a Glance

- Focus on **real world problems** that cannot be addressed without a significant level of **fundamental knowledge in ICT**, which feeds into devices, components and systems needed to realize the targeted solutions.

- Identify and focus on opportunities to increase **economic competitiveness** and/or to contribute to **solving important societal problems**.

- The team should combine **research institutions, companies, markets, and end users during all stages of activity**.

- The first call will remain open until **October 16, 2013** (5 pm Lisbon time), and will award:
  - **€ 6 million**, half in Portugal and half at CMU, to support **4 to 7 ERIs**;
  - Start in 2014, with a maximum duration of **4 years**.
The Program’s Mission

Establishing Portugal at the forefront of Science and Innovation in Information and Communication Technologies

- Collaborative Research
- Industry Partnership
- Technology Entrepreneurship
- Talent Development
**Challenge**

Leadership in the creation of international innovation engines through strong Entrepreneurial Research Initiatives.

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