

# Cyl: combining structural funds and Framework Programmes to improve excellence in R&I



THE CYPRUS  
INSTITUTE

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# Cyl: a new approach to research

- The creation of The Cyprus Institute (Cyl), a novel, internationally recognized research institution, is the tangible manifestation of a vision to transform Cyprus into a knowledge-based economy.
- Cyl is a world-class research and technology institution, carrying out pioneering research into cutting-edge high throughput technologies, in order to address problems of regional as well as international significance.
- The Institute operates under the aegis of the Cyprus Research and Educational Foundation (CREF), which is governed by a Board of Trustees, comprised of leading personalities of the international academic, political and business world.

# Cyl: Basic Setting

- The Cyprus Institute was founded recently (2007), in a small island, with a small population, which counts as one of the low-performing RDI countries of the European Union.
- It was therefore critical to develop a business model which would allow the institute to overcome these baseline difficulties in order to grow fast and establish itself as a leading player in the European Research Area.
- The cornerstone of this strategy involved establishing research centres, in partnership with well-established, world-leading institutions, which address challenging problems that are important at both the regional and international levels.

# Cyl: Overview

- A research and educational institution suited to a knowledge economy, taking advantage the Cyprus «gateway» niche
- A European institution, for the Eastern Mediterranean based in Cyprus
- A non-governmental institution devoted to advancing peace and prosperity in the region through science and technology

## Research Centers: the fundamental building-blocks of The Cyprus Institute



Energy, Environment  
and Water



Science and Technology  
in Archaeology  
(& Culture)

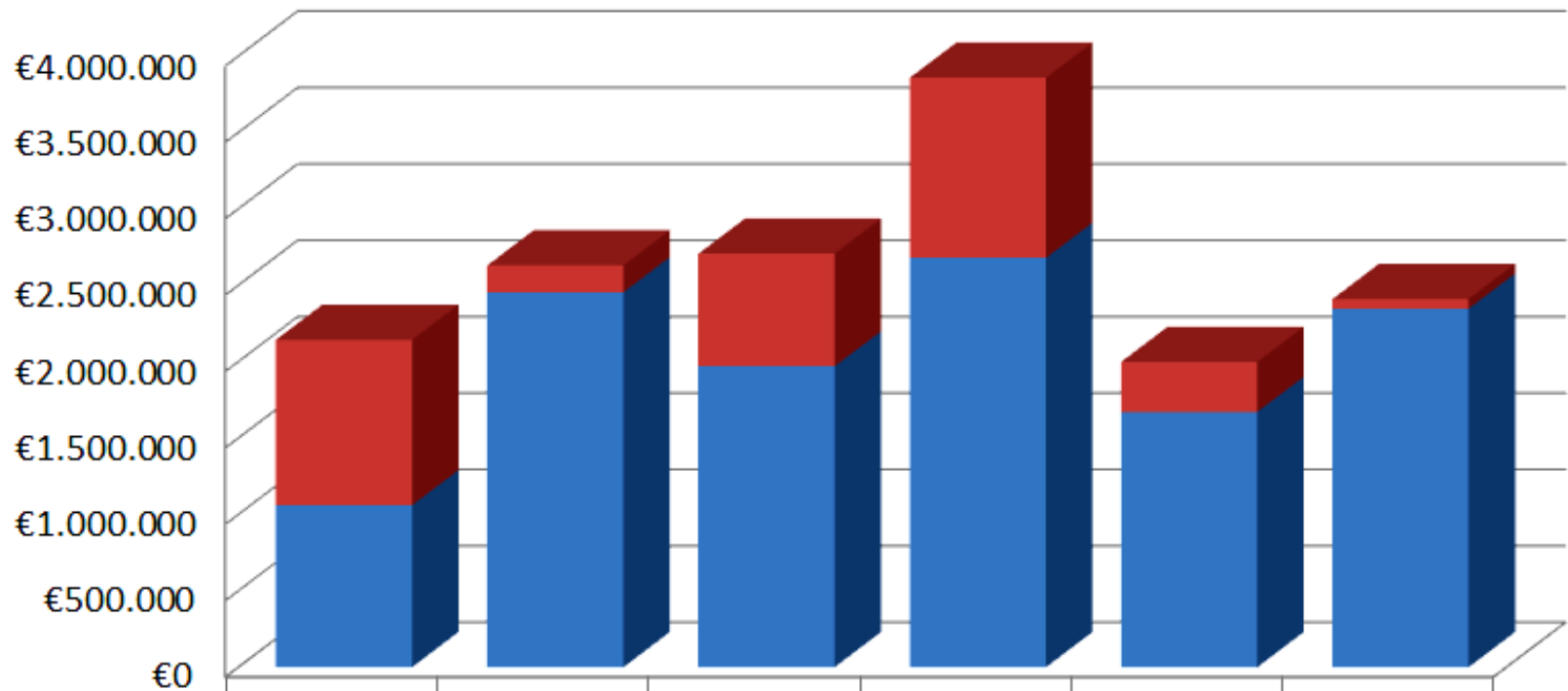


Computation – Based  
Science and  
Technology

# Cyl: Research

- The Institute has currently 32 active research projects
- The Institute in its short time of operation has secured competitive grants exceeding the amount of €14 million

**Funds from International and Local Sources per year**



Local Sources	€1.082.920	€175.392	€736.943	€1.178.506	€327.380	€62.720
International Sources	€1.060.023	€2.454.314	€1.969.760	€2.679.532	€1.671.002	€2.347.166

# Cyl: Collaborations

## STRATEGIC PARTNERSHIPS

- Massachusetts Institute of Technology (MIT)
- Centre de Research and Restauration des Musées de France (C2RMF)
- University of Illinois
- Max Planck Society

## Collaborations:

- Von Neuman Center/Jülich
- Imperial College
- Italian National Agency for New Technologies, Energy and Sustainable Economic Development (ENEA)
- Tel-Aviv University
- Bibliotheca Alexandrina
- University of Cyprus
- Open University of Cyprus
- The Academy of Athens
- University of Athens

## Corporate Partnerships:

- IBM
- EAC

## Foundations:

- AG Leventis Foundation
- Archbishop Makarios III
- Sophia Antipolis Foundation

## Organisations:

- Cyprus Employers and Industrialists Federation -OEB

# International networks

The Cyprus Institute is currently involved in a number of international networks:

- The Regional Hub for the large international initiative Future Earth (<http://www.icsu.org/future-earth>)
- UN Sustainable Development Solutions Network (<http://unsdsn.org/>)
- To take on the role as National Focal Point in the context of the Blue Green Dream Project (EIT- Climate KIC; <http://bgd.org.uk/>)
- Membership of thematic networks (e.g. EERA, PRACE etc.)



# Educational Activities

The Cyl Doctoral Programmes have been initiated in 2010

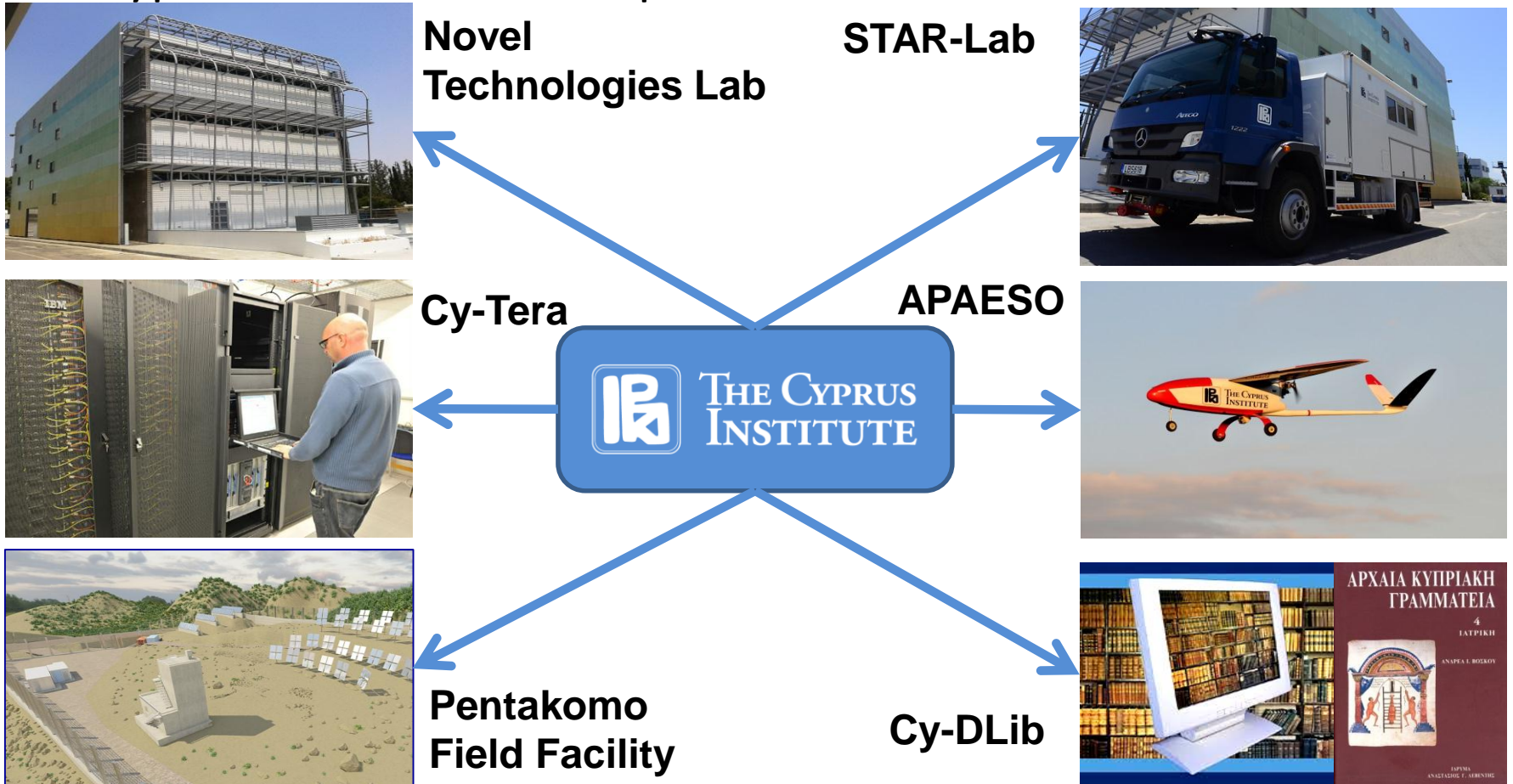
- Three programmes offered in:
  - Computational Sciences
  - Digital Cultural Heritage
  - Environmental & Atmospheric Sciences
- The programmes are embedded in the research agenda of Cyl and build on experienced international faculty
- PhD studies embedded in a rich and stimulating research environment
- Students get exposed to and get involved in ongoing international research projects





# Highlights and Flagship Projects

The Cyprus Institute increasingly attains a unique position because of major scientific infrastructure that manifests our distinct position in the Cyprus Research landscape



# Research Facilities: Rationale

- Field- and laboratory investigations: Integral part of Cyl's research agenda
- Strategic infrastructure projects and the new Cyl-laboratory building make all the difference
- They not only offer much needed infrastructure for Cyl-research, but also opportunities for collaborative work with national and international partners
- They also significantly enhance our chances of obtaining external competitive research grants

# Cyprus – Financial Context

## Stats

- GDP per capita: €23.500 (2012)
- GDP Growth rate for 2013-14: -12,5%
- GDP Growth rate for 2015: 1,1% (est.)
- Unemployment: 15,9% (2013)

## Milestones

- Accession to EU 2004
- Adoption of EURO currency in 2008
- Financial/debt crisis since 2010, peaked in March 2013
- MoU with EU-ECB-IMF (“TROIKA”) signed in March 2013

# Cyprus: research funding

“Relatively new Research and Innovation System”

- R&D expenditures GDP %: 0,49% or € 88,8 millions
- Public Expenditures (GERD): 70,6%
- Research Promotion Foundation, Public Universities, Public Research Institutes
- Private Expenditures (BERD): 14,9 %
- Private sector, Private Universities
- Other Sources: 14,5 %

“Research & Innovation Strategy & Priorities: Smart Specialization”

# Framework programmes

- Cyl is involved in a wide range of FP7 projects
- Gradually, Cyl is taking on more leadership roles in EU consortia, taking the coordination role in some large scale networking projects such as [LINKSCEEM 2](#), which aims to develop a high performance computing eco-system in the Eastern Mediterranean region.
- The core of the strategy is to leverage structural funds to build infrastructure, which is then in turn leveraged to secure participation in large-scale EC-funded projects.

# Example 1: Solar Thermal Energy



- **Build infrastructure:** The Solar Thermal Production of Electricity and Water (STEP-EW) project, initiated in 2011, involved construction of an experimental Concentrated Solar Power plant in Cyprus.
- **Initial funding:** ERDF
- **Leveraging infrastructure:**
  - STAGE-STE (IRP), EU-SOLARIS (distributed research infrastructure) and H2020 calls.
  - Reinforces role of Cyl in EU networks: EERA, ESTELA
  - Development of partnerships with Industry

# Example 2: High performance computing



- **Building infrastructure: Cy-Tera supercomputer:** the largest supercomputer in the Eastern Mediterranean, was installed in 2011
- **Initial funding:** Structural funds channelled through the Cypriot Research Promotion Foundation
- **Leveraging infrastructure:**
  - Open to Cypriot Universities, Research Institutes, and Industry through
  - CaSToRC secured a European-funded infrastructure programme worth € 2.5 million to lead the development of HPC in the Eastern Mediterranean.
  - 2008: CaSToRC obtains membership of PRACE

## Example 3: Atmospheric-Earth surface observation



- **Building infrastructure: 2008-2012:** The unmanned Autonomous Flying Platforms for Atmospheric and Earth Surface Observations (APAESO) have been designed and built
- **Initial funding:** European Regional Development Fund and the Republic of Cyprus through the Research Promotion Foundation).
- **Leveraging infrastructure:** APAESO is put at the disposal of a range of European and International research efforts, and is currently being proposed as a contribution to H2020 proposals.



# CONCLUSIONS

- **The Cyprus Institute is an example of how academic institutions in small and low-RDI countries can become to centres of academic excellence.**
- **The lessons learned from the Cyprus experience involve leveraging infrastructure funded by structural funds to participate in FP7/H2020 projects of ever greater magnitude.**
- **This should be an inspiration not only for other small or low-RDI member states, but also for smaller regions within larger EU countries.**

# Thank you!



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