The CoreGRID project

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What is CoreGRID?

- Network of Excellence
  - CoreGRID brings together a European critical mass of well-known experts in GRID and P2P research allowing to compete with research and development in US and Japan
  - An ambitious joint program of activities to deal with well identified challenges

- Long-term integration & structuring
  - Set-up a <u>sustainable</u> European research laboratory with an associated management
    - With several Institutes
    - With research groups assigned to Institutes
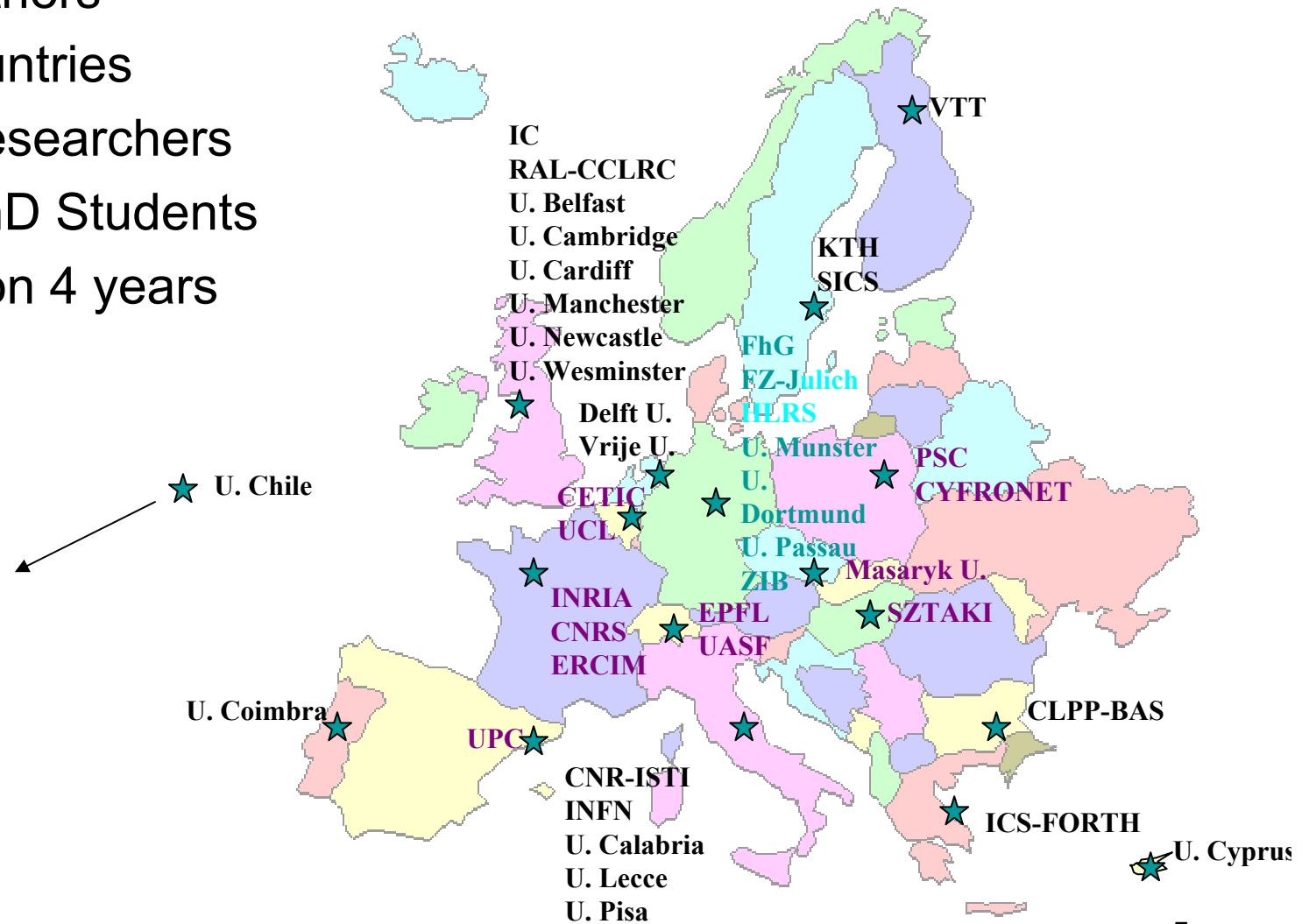
CoreGRID objectives

- To build a European-wide research laboratory
  - Create the European "Grid Lighthouse" and be seen as such worldwide
  - To achieve integration and sustainability

- To build solid foundations for GRID and Peer-to-Peer (P2P) technologies
  - Both on a <u>methodological</u> basis and a <u>technological</u> basis.
  - Support medium and long term research activities

- Achieve and promote scientific and technological excellence within & beyond the Grid research community

- Gather and disseminate European research

A set of well identified research challenges

- **Knowledge & Data Management**
  - Handling information/data that are required/produced by a wide range of diverse processing power
- **Programming Model**
  - Making the programming of Grid infrastructures as simple and transparent as possible
- **System Architecture**
  - Designing the next generation Grid middleware
- **Grid Information and Monitoring Services**
  - Scalable information service to implement a service view of the Grid
- **Resource Management & Scheduling**
  - Scheduling jobs/applications/tasks/computation within a Grid environment
- **Problem Solving Environments, tools and GRID systems**
  - Integrating various middleware, tools and applications for problem solving

CoreGRID membership

- 42 partners
- 18 Countries
- 118 Researchers
- 163 PhD Students
- Duration 4 years

IC
RAL-CCLRC
U. Belfast
U. Cambridge
U. Cardiff
U. Manchester
U. Newcastle
U. Wesminster

VTT

KTH
SICS

FhG
FZ-Julich
HLRS
U. Munster
U.
Dortmund
U. Passau
ZIB

PSC
CYFRONET

Masaryk U.

SZTAKI

Delft U.
Vrije U.

CETIC
UCL

U. Chile

INRIA
CNRS
ERCIM

EPFL
UASF

U. Coimbra

UPC

CNR-ISTI
INFN
U. Calabria
U. Lecce
U. Pisa

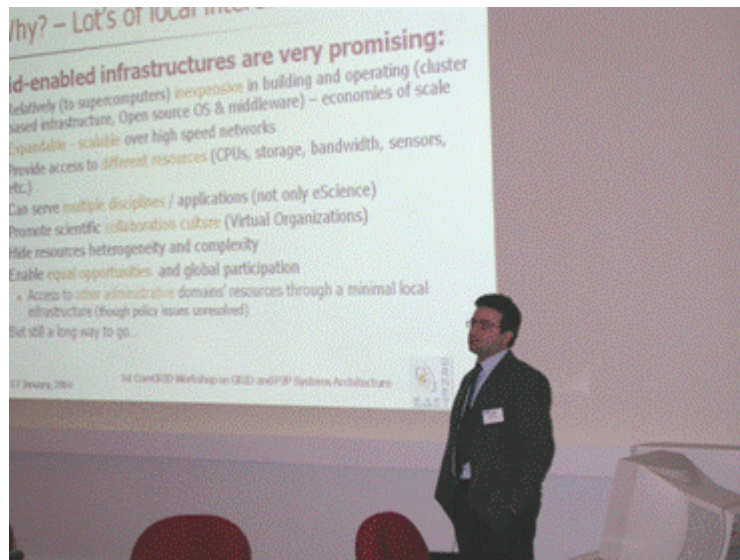CLPP-BAS

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U. Cyprus

1st CoreGRID Workshop on GRID and P2P Systems Architecture

Institute of Computer Science
Foundation for Research and Technology - Hellas
Heraklion - Crete, Greece

17 January 2005

1st CoreGRID Workshop Invited Talks

GRID Research Infrastructures in Greece:
The HellasGrid National Initiative
Nektarios Koziris - Dept. of Computer Science,
National Technical University of Athens, Greece

Preserving Data Integrity in Peer-to-Peer Networks
Mema Roussopoulos - Division of Engineering
and Applied Sciences, Harvard University, USA

From P2P to Web Services and Workflow
Ian Taylor - School of Computer Science,
Cardiff University, UK

GRID Computing and Peer-to-peer Systems

- Current GRID-related Research includes:
  - System architecture: peer-to-peer vs. hierarchical systems
  - Large-scale Storage Systems for GRIDs
  - Performance management for GRIDs: monitoring, caching, replication

- Objectives include investigation of the impact of GRID on other sciences
  - E.g Health Sciences

- Current GRID projects include CoreGRID and SecSPEER.

The CoreGRID project

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