ERCIM: The front door to European informatics research

The aim of the European Research Consortium for Informatics and Mathematics (ERCIM) is to foster and encourage collaborative work within the European research community in IT and applied mathematics and to increase co-operation with industry. William Davis talks to ERCIM president Keith Jeffery about this work and how this linking of European resources creates a force of more than 12,000 researchers who can work together in different areas of research.

ERCIM, established as a European Economic Interest Grouping (EEIG), was founded in 1989 by the major research institutions in France (INRIA), Germany (GMD) and the Netherlands (CWI). The UK (CCLRC) soon followed and from then the organisation grew steadily to its current size of 18 member institutions, one from each member country. Each research centre acts as a node in its country, linking up industry and universities, disseminating and interacting on research information.

ERCIM is the European host of W3C, the World Wide Web Consortium, which develops web standards. 8 out of the 18 ERCIM members host a W3C office in their country and increasingly ERCIM institutes contribute to W3C activities (called W3C recommendations) based on their research.

ERCIM President Keith Jeffery sees collaborative work as fundamental to Europe’s success in the field and, therefore, fundamental to Europe’s overall prosperity. “Put crudely,” he said, “this means we can compete effectively with North America and the Pacific Rim.”

Jeffery is convinced ERCIM is making a big difference for Europe maintaining the European lead in advanced Information and Communications Technologies (ICT). “If you take a cold analysis,” he argues, “Europe is behind in ICT. Virtually all our computers are produced in America or the Pacific Rim, we’re not producing major operating system software, while the basic software like data base systems and email systems mostly come from the US, although IBM, Oracle and others do have research labs in Europe with whom we are collaborating.

“The one big success in software for Europe is SAP in Germany, which produces end-to-end enterprise software managing finance, human resources and customer relations. Where we’re really strong in Europe is on mobile technology, detector technology, integrated systems and in content. We have access to a vast cultural and content heritage and ERCIM is involved in projects with museums and libraries to make all this information available.”

Collaborative work as fundamental to Europe’s success and fundamental to Europe’s overall prosperity

From European IT strategy to specific research projects

As president of the organisation, Jeffery is responsible for directing the overall strategy of ERCIM and, as such, helping Europe remain competitive in this vital field of research and development.

To achieve this, ERCIM works in two very distinct ways, as Jeffery explains:

“We look outwards, that is to the European Union and to the member states, and advise on IT strategy,” he said. “We have been very effective in that. We produced a strategy document Strategy for ICT in Europe and many of its ideas were incorporated in the EC Framework Programme (FP). Many people in ERCIM are involved in expert groups within the European Commission, helping to write the work programme and also acting as reviewers.

“Because we have this shared vision across all European countries, it means that each individual institute of ERCIM is able to put a similar vision to their national representatives which is actually creating the so-called European Research Area, harmonising the way Europe is working. This takes time, of course, but it is happening and it is very exciting to see it happen. We have proposed and obtained some projects from the European Commission to help them with this strategic direction,” explained Jeffery.

“One that finished last year was called Beyond the Horizon with ERCIM acting as a crucible to pull together experts in different IT disciplines, not only from ERCIM institutes but from industry and academia, and to generate a report on what IT would look like in 20 years time in the EU and how we were going to get there.

“This project was a particularly powerful one in many ways because it looked at all areas of what we do. The most important thing to emerge was our view of the integration of mobile computing, cognitive computing and the new devices that were coming out.”
This is again where ERCIM is useful as we are seen as an honest broker, a neutral party, working between the universities and industry, trying to move things forward.

**A lot of concrete activities to get even more impact**

The second aspect of ERCIM’s work is to provide assistance to its members (and their industrial and academic partners) in preparing EC ICT research proposals, and in managing successful projects by carrying out the administrative and financial coordination.

“Our working groups initiate the proposal. We have about 18-20 of them at any time. Each one involves people from many of the different ERCIM members who work together on particular areas of research and to submit proposals to the EC and to national governments. Again, this is a harmonisation activity. They identify some research that needs doing Europe-wide and go for it.

“Our success rate is very good. We do very well in getting both EC and national government funding for these activities and, through the ERCIM Office located in Sophia Antipolis, France, we manage the process which releases the researchers from administration to do their research.

“As well as ERCIM institutes being involved in those projects, we reach out to a large number of industries in Europe and some of the best universities as partners. We use our network of contacts and three simple criteria: excellence, excellence and excellence. These projects cover a large range of activities - from the very hi-tech like embedded systems in cars or mobile phones through to health and culture, digital content, logistics for managing transport systems and many other areas. We have a very wide interest in applying the principles of computer science and applied mathematics to make a real difference to European business and quality of life.”

Another area in which ERCIM is working is security, dependability and trust. The idea there is that for many projects there needs to be put together a consortium of companies to achieve the objective and come to tender. For the moment that can take a very long time with many lawyers involved. ERCIM simplifies this process.

“What we’ve been working on is some research projects where each company exposes on the Internet information about its bona fides, its formal contracts and so on and then these can be exchanged automatically and intelligent systems can then say whether two companies can work together and particularly identify any outstanding problems that the lawyers or the managers have to solve,” explained Jeffery. “The idea is to put together consortia quicker and better.”

At the moment this system is being tested with a few companies and Jeffery is pleased with the success. Although not fully there yet, he believes that this process will be common place in 20 years and what they are now doing is taking the first steps towards this.

“As well as the research projects, we are also very involved with European Networks of Excellence, such as DELOS, CoreGRID and MUSCLE. We also have within ERCIM a fellowship programme to encourage young researchers, who join our institutes and move from one to the other, so developing a very Euro-centric view of IT, a very important contribution to the human capital future of Europe in ICT.

“We are involved in ICT standardisation, getting ICT standards defined in Europe, so manufacturers have a lead in producing products to a standard, through a project called COPRAS, for example.

“Finally, we publish **ERCIM News** on a quarterly basis. As well as a specific theme in each issue, our magazine reports on joint actions of the ERCIM partners and the contribution made by ERCIM to the EC in IT.”

For more information, www.ercim.org

Keith Jeffery
President, ERCIM
**ER CIM Running projects**

- **Integrated Project**
  - **ACGT** – Advancing Clinico-Genomic Clinical Trials on Cancer
  - **Aims** To develop an advanced GRID architecture allowing the analysis and comparison of both genetic results within large-scale databases in order to perform a fast diagnosis and to define accurate therapeutic countermeasures.
  - **Co-ordinator:** Rémi Ronchaud
  - **Contact:** remi.ronchaud@ercim.org
  - **Website:** http://eu-acgt.org

- **Network of Excellence**
  - **CoreGRID** – European Research Network on Foundations, Software Infrastructures and Applications for large-scale distributed, GRID and peer-to-peer technologies
  - **Aims** Strengthening and advancing scientific and technological excellence in the area of Grid and Peer-to-Peer technologies.
  - **Co-ordinator:** Bruno Le Dantec
  - **Contact:** bruno.le_dantec@ercim.org
  - **Website:** http://www.coregrid.net

- **Network of Excellence**
  - **DELOS** – Network of Excellence for Digital Libraries.
  - **Aims** To co-ordinate a joint programme of activities of the major European teams working in digital library related areas. The DELOS search function allows searching for documents and information related to digital libraries contributed by the DELOS community partners.
  - **Co-ordinator:** Philippe Rohou
  - **Contact:** philippe.rohou@ercim.org
  - **Website:** http://www.delos.info

- **Integrated Project**
  - **DILIGENT** – A Digital Library Infrastructure on Grid ENabled Technology
  - **Aims** To create an advanced test-bed that will allow virtual eScience communities to share knowledge and collaborate in a secure, co-ordinated, dynamic and cost-effective way.
  - **Co-ordinator:** Jessica Michel
  - **Contact:** jessica.michel@ercim.org
  - **Website:** http://www.diligentproject.org

- **Specific Support Action**
  - **ECHOGRID** – European and Chinese Cooperation on Grid
  - **Aims** To define short-, mid- and long-term goals in Grid technology and establish a common Grid research agenda relying on European and Chinese experts. This will involve interaction between European and Chinese Grids research communities, the exchange of best practices for standards and interoperability and the forming of lasting partnerships.
  - **Co-ordinator:** Bruno Le Dantec
  - **Contact:** bruno.le_dantec@ercim.org
  - **Website:** http://echogrid.ercim.org

- **Specific Support Action**
  - **ENGAGE** – Encouraging and Stimulating future RTD cooperation in the field of Information Society Technologies between Europe and Asia-Pacific region
  - **Aims** To build bridges between ICT research communities and businesses in Europe and in Asia.
  - **Dissemination Contact:** Rémi Ronchaud
  - **Contact:** remi.ronchaud@ercim.org
  - **Website:** http://www.engage-ist.org

- **STREP**
  - **GridCOMP** – GRID Programming with Components – An advanced component platform for an effective invisible grid
  - **Aims** The design and implementation of a component-based framework suitable to support the development of efficient grid applications. The framework will implement the “invisible grid” concept: abstract away grid related implementation details that usually require high programming efforts to be dealt with.
  - **Co-ordinator:** Patricia Ho–Hune
  - **Contact:** patricia.ho-hune@ercim.org
  - **Website:** http://gridcomp.ercim.org

- **PALETTE** – Pedagogically Sustained Adaptive Learning through the Exploitation of Tacit and Explicit Knowledge
  - **Aims** To facilitate and augment individual and organisational learning in Communities of Practice (CoPs). Towards this aim, an interoperable and extensible set of innovative services as well as a set of specific scenarios of use will be designed, implemented and thoroughly validated in CoPs of diverse contexts.
  - **Co-ordinator:** Bruno Le Dantec
  - **Contact:** bruno.le_dantec@ercim.org
  - **Website:** http://palette.ercim.org

- **STREP**
  - **Net-WMS** – Networked Businesses in Warehouse Management Systems
  - **Aims** To deliver decision-making applications in a networked environment. The Net-WMS project proposes a software solution enabling the expected new generation of WMS networked businesses. Net-WMS will handle networked communication and co-operation processes through the integration of decision-making technologies, generic 3D placement primitives, virtual reality for 3D visualisation, interactively-designed packing models and knowledge modelling.
  - **Co-ordinator:** Philippe Rohou
  - **Contact:** philippe.rohou@ercim.org
  - **Website:** http://net-wms.ercim.org

- **Integrated Project**
  - **VITALAS** – Video & image Indexing and Retrieval in the Large Scale
  - **Aims** To provide advanced solutions for indexing, searching and accessing large-scale digital audio-visual content by confronting its technology to real use cases, reflecting the joint concerns of two major European content providers. It will develop new technological functionalities and services to facilitate access to multimedia content in large databases.
  - **Co-ordinator:** Rémi Ronchaud
  - **Contact:** remi.ronchaud@ercim.org
  - **Website:** http://vitalas.ercim.org