

The Rt Hon Lord Patten of Barnes CH
Chair
European Research Council Identification Committee
B-1049 Brussels
Belgium

February 2005

Dear Lord Patten

MEMBERSHIP OF THE EUROPEAN RESEARCH COUNCIL GOVERNING BODY

The UK Computing Research Committee (UKCRC), an Expert Panel of the British Computer Society, the Institution of Electrical Engineers and the Council of Professors and Heads of Computing, was formed in November 2000 as a policy committee for computing research in the UK. Its members are leading computing researchers from UK academia and industry. We are pleased to respond to the invitation from the European Research Council Identification Committee to present our views on the factors and criteria that should be taken into consideration in the identification process.

THE VITAL IMPORTANCE OF COMPUTATIONAL TOOLS

Most (if not all) science and technology requires powerful computational tools and methods, supported by mathematical and statistical models combined with numerical methods. Indeed most research now requires the visualisation of large and complex databases. Unless the computational and mathematical tools are available in complementary timescales, there will be considerable constraints on the rate at which, in particular, life science, biotechnology, nanotechnology, aeronautics, space and sustainable development research can progress.

COMPUTING RESEARCH AND THE INFORMATION SOCIETY

The Information Society is entirely dependent upon information and communications technologies (ICT) that are, in turn, entirely dependent upon computers and computing research. ICT not only forms a major sector of economic activity, generating about 7.5% of the EU's wealth measured in terms of gross domestic product (GDP), but also is an essential enabling technology as well, underpinning the efficiency and competitiveness of all manufacturing and services sectors.

COMPUTING RESEARCH AND CRITICAL NATIONAL INFRASTRUCTURES

The continuity and security of critical national infrastructures, and many other technology based solutions, depend on the correct and continuous interactions of a multiplicity of ubiquitous computer based systems. Any loss of service (or significant interruption or degradation to the service) could have life-threatening, serious economic, or other grave social consequences for society. We have already seen the impact of viruses and other assaults on current networks; such events in the ubiquitous environment would be potentially catastrophic. We must reduce our exposure to this risk, but to do so requires very significant investment in software engineering methods and tools that achieve and demonstrate system dependability, fault tolerance and security, and the development of integrated interdisciplinary frameworks and related technologies for the provision of dependability and security in complex interconnected and heterogeneous communication networks and information infrastructures.

RENEWAL OF THE RESEARCH INFRASTRUCTURE

One of the key factors in the efforts to attract and retain world-class researchers is a good research infrastructure. However, many computing research facilities are deteriorating as a result of insufficient investment in infrastructure and as a result working environments are less than ideal. This has been

attributed to research costing regimes that take no account of the need to invest for the future, and in particular take insufficient account of the higher costs of scientific research facilities compared to those required for (say) arts and humanities. The ERC will be well placed to reverse the deterioration of the computing research infrastructure.

COMPUTING RESEARCH AT THE CENTRE OF THE EUROPEAN RESEARCH COUNCIL GOVERNING BODY

A vibrant and properly resourced EU computing research programme is of fundamental importance not only as an underpinning requirement for all other research but also to assure that the EU becomes the most competitive knowledge based society. Because of the central importance of this discipline the UKCRC considers that membership of the European Research Council's governing body must include an eminent person in the field of computing research.

The opinions expressed in this letter are supported by the British Computer Society and the Institution of Electrical Engineers as representing the views of both institutions.

Yours sincerely

Prof Alan Bundy
Chair, UKCRC