



Engineering and Physical Sciences
Research Council

Wired and Wireless Intelligent Networked Systems:

Call for Research Consortia Outline Proposals

An invitation to all researchers from computing, electronics, materials, engineering, social science and psychology communities to bid against initial funding up to a maximum of £5 M, by establishing inclusive, multi-disciplinary research consortia that focus on high risk and high potential research in the area of Wired and Wireless Intelligent Networked Systems, WINES.

This document contains the following information:

- Background
- Aims of the research consortia approach
- Funding details
- Criteria for research consortia
- Guidance for research consortia outline applications
- Application procedure
- Call Schedule
- Assessment procedure
- Contact details for further information

Closing date for research consortia outlines: 5 pm, 20 September 2004.

Background

Autonomic, self organising and self-managing systems will be essential to cater for the potentially billions of ubiquitous computers that will be part of the everyday environment in future. Users will experience this through a wide variety of devices some of which they will wear or carry and some that are embedded in buildings or vehicles they use. This heterogeneous collection of devices will interact with sensors and actuators embedded in our homes, offices, transportation systems which overall will form an intelligent pervasive environment. Human factors arise to cater for new modes of interaction and 'invisible' ambient technology which must be useable by non-technical people. There is a need to support transient organisations and dynamic, potentially mobile work arrangements including virtual teams, ad-hoc collaborations and virtual organisations, whilst simultaneously considering the sociological impacts of this ubiquitous, always connected technology. There is a need for new principles of engineering design and new rigorous models for virtual machines that embody these principles, additionally new theories and tools which will constitute a science of wired and wireless intelligent networked systems. There are many research challenges to overcome prior to ubiquitous systems becoming a reality which will require different research communities to work together in consortia.

Aims

An opportunity that has been overlooked in the ICT community is to cultivate collaboration across research areas. Drawing these areas together by cultivating consortia will become increasingly significant as we move toward ubiquitous ICT systems. To address these concerns the EPSRC ICT Programme intends to make this strategic investment in the WINES to foster closer collaboration across the traditional research communities it supports. This additional measure builds upon earlier EPSRC funding of the five IT centric IRC's and a number of networks to foster closer dialogue between component parts of the research community, and directly addresses to UKCRC Computer Science Grand Challenges (http://www.nesc.ac.uk/esi/events/Grand_Challenges/) .

To provide consortia with focus we would expect each proposal to consider an application domain and that at least two of the following research areas are fully addressed: sensor systems; wireless communications; autonomous systems; information management and provenance; programming and design tools; context awareness; trust security and privacy; systems theory; human factors and social issues.

Funding

Up to £5 M funding is available for this first call. We will review the outcome of this call before deciding the future of subsequent calls. It is anticipated that we will only fund a limited number of large, adventurous consortia bids, each totalling to the order of £1 M.

Criteria

This call is additional to support for responsive mode proposals. The following criteria will be used to select funded proposals:

- The proposed research could not be easily supported through responsive mode.
- Research consortia proposals will build on the current grant portfolio supported by EPSRC.
- Research proposed by the bidding consortia should be high risk with the potential of significant benefits.
- Research consortia proposals will have the potential to build internationally leading research collaborations.
- The consortia must be appropriate to foster intra-ICT community collaboration.
- Research consortia proposals are expected to address an application domain and address two or more of the highlighted research areas.

Guidance for Research Consortia Applications

- Each consortia should involve a group of people, providing a range of expertise and possibly including representatives from academe and industry. A mix of age and experience within the research consortia might also be an advantage.
- Research consortia are not required to be multi-institutional but should aim to be multi-disciplinary.
- The proposed research consortia should preferably be a new collaboration, but could be based upon an existing collaboration, provided that the proposal demonstrates added value.
- The group should be based in the UK, but may include collaboration with others outside the UK (using existing funding mechanisms of visiting fellowships or overseas travel grants)
- Applicants are encouraged to be innovative in the choice of mechanisms for the proposed research consortia.

- We are not looking for completed research proposals at this stage, rather outline proposals.

It is anticipated that approximately five consortia will be funded.

Application Procedure

The research consortia outline proposal should be submitted by a researcher (the principal investigator) who is a permanent employee of a University or similar institution (see EPSRC Funding Guide, <http://epsrccmsint/www.epsrc.ac.uk/ResearchFunding/HowToApply/FundingGuide.htm>). The principle investigator will be responsible to EPSRC for the management of the research consortia.

Where the submitting organisations have registered for the Research Councils' Joint electronic Submission (Je-S, <https://je-s.rcuk.ac.uk/eforms/secure/Login.asp>) System, this should be used when completing the application. Otherwise, the EPSRC Outline Proposal Form, Je-SOP1 (EPSRC) (<http://epsrccmsint/www.epsrc.ac.uk/Content/Forms/Applicant/EPSCRResearchProposalJe-SOP1EPSRCForm-Outlines.htm> also, see Guidance notes for completing Je-SOP1, [http://epsrccmsint/www.epsrc.ac.uk/Content/GuidanceNotes/GuidanceNotesForCompletingTheJe-SOP1\(EPSRC\)Form-Outlines.htm](http://epsrccmsint/www.epsrc.ac.uk/Content/GuidanceNotes/GuidanceNotesForCompletingTheJe-SOP1(EPSRC)Form-Outlines.htm)), available on the EPSRC website (www.epsrc.ac.uk) by following the link to Forms, should be used and applications submitted by post – the original together with eight copies – to:

EPSRC
Polaris House
North Star Avenue
Swindon
SN2 1ET

The EPSRC Funding Guide and the Guidance Notes for completing the Outline Proposal Form Je-SOP1(EPSRC) should also be consulted when completing the application. These are both available from the EPSRC website. Where advice conflicts, please use that given in this document.

The deadline for receipt of outlines by the office will be **5 pm 20th Sept 2004**. Letters of support, references and project charts are not required or excepted at the outline stage.

Outline proposals will be reviewed by a peer review panel and short listed against the assessment criteria. The peer review panel will be assembled in response to the applications received. Invitations to submit full proposals will be made by **22nd October 2004** and the deadline for receipt of full proposals will be **5pm on 6th December 2004**.

Call Schedule

Call launched for outline consortia proposals	2 nd August 2004
Closing date for outline consortia proposals	20 th September 2004
Short listed full proposals invited	22 nd October 2004
Deadline for full research consortia proposals	6 th December 2004
Successful research consortia announced	4 th March 2005

Research Proposal Assessment

Outline proposals will be reviewed by a peer review panel and short listed against the assessment criteria. Full research consortia proposals will then be invited and subject to the usual EPSRC responsive mode assessment criteria. Following postal peer review full proposals will be considered in competition by a specially convened panel. Successful awards will be announced in March 2005.

Contact for the WINES Initiative

Prospective research consortia leaders are encouraged to contact the office to discuss their ideas:

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