



# **A\*STAR'S CALL FOR PROPOSALS (CFP) FOR**

## ***HUMAN FACTOR ENGINEERING***

### **PILOT THEMATIC STRATEGIC RESEARCH PROGRAM**

Extramural Programs  
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**HUMAN FACTOR ENGINEERING**  
**A\*STAR'S CALL FOR PROPOSALS FOR PILOT PROJECTS**

**1. INTRODUCTION**

- 1.1 The Science and Engineering Research Council (SERC) of the Agency for Science, Technology and Research (A\*STAR), is embarking on a new pilot Thematic Strategic Research Program (TSRP) in **Human Factor Engineering (HFE)**. The intention of the pilot program is to catalyze the formation of research groups and identify potential research topics that can benefit from active collaboration. Importantly, outcome of the pilot projects will help to formulate a research program that should lead to a full-fledged Thematic Strategic Research Program.

**2. OBJECTIVES OF THE CALL FOR PROPOSAL FOR PILOT PROJECTS**

- 2.1 The aim of the call for proposals (CFP) for pilot projects is to provide directed seed funding to advance bottom-up collaborative research activities in order to allow the research community to enhance their core competencies by addressing key research challenges.
- 2.2 A critical mass of successful pilot projects are expected to help define a full-fledged program under the same theme. Thus, pilot projects will serve to define the direction and focus of the subsequent full-fledged programs.
- 2.3 Pilot project proposals should generally include activities such as proof of concept, feasibility studies, acquiring of expertise necessary to full-fledged programs, as well as connecting with and hosting of international collaborators. Proposals should also demonstrate the building of multi-disciplinary research teams.

**3. BACKGROUND**

- 3.1 Under the Science & Technology 2010 Plan, HFE was identified as one of the priority research areas for SERC. In August 2006, SERC organized a workshop on HFE which allowed the council to access the critical mass of the local research community in HFE. From the outcome of the workshop, SERC is proceeding to launch a call for proposals for the pilot thematic strategic research program in HFE.

**4. ABOUT HUMAN FACTOR ENGINEERING**

- 4.1 In HFE, the starting point is about placing a human being, who is performing a specific task in a defined environment, as the center of focus. In a typical human-machine system, a human operator interacts with machines in various manners. In doing so, the operator may use several human abilities, including the ability to learn from the past experience to make critical decision and cognitive task analysis. Thus, a human being is regarded as one of the most important elements in the system.
- 4.2 To help a human being to perform complex tasks more effectively, the research of various disciplines in sciences and engineering are involved. HFE R&D requires the combination of engineering disciplines (e.g. IT and mechatronics) and human

sciences (e.g. psychology, anthropology and cognitive sciences). Such complementary capabilities will strengthen HFE-related fields such as human-computer interactions, ergonomics and industrial designs. It is likely that HFE R&D will result in growth across many industry domains such as vehicular design, consumer electronics, web interfaces and process control.

Some examples of the areas in which HFE R&D can be applied to are:

- Process control system
- Display and communication of complex information (Information Management System)
- Development of simulation for operator performing complex tasks and for training of complex skills

4.3 In essence, outcomes of the HFE R&D program will translate to 3 useful domains namely the acquisition of knowledge, designing of processes and development of a profession. As a domain of knowledge, HFE is a collection of data and information about human capabilities, characteristics, behavior and limitations in relation to machine in a defined environment. As a process, HFE enhances the design of machines, systems, methods and environment to improve safety, efficiency and productivity of human operators. As a profession, HFE develops a range of scientists, engineers, psychologists, anthropologists and ethnographers in various disciplines that are concerned with the said human at work.

## 5. PARTICIPATION

5.1 Researchers from the research institutes and centres, universities and polytechnics are invited to participate in this program and to submit project proposals for funding consideration.<sup>1</sup>

## 6. SELECTION PROCESS

6.1 The proposals will be reviewed against the objectives of the **Human Factor Engineering** Pilot Program, based on the criteria below, in order of importance:

- i. Relevance to HFE
- ii. Innovative merit of the scientific approach
- iii. Relevance to industry
- iv. Track record of the Principle Investigator (PI)
- v. Clear outcomes and deliverables
- vi. Budget requested

*It is important to note that each proposal is required to be submitted by a multi-disciplinary team with members from the physical sciences (or engineering) and other sciences (i.e. anthropology, ethnography, psychology, cognitive science, etc.).*

6.2 Awards will be notified within 2 months of the closing date for submissions.

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<sup>1</sup> Research scientists and engineers from all local public universities, polytechnics and public-sector agencies are eligible under this program.

## **7. TERMS AND CONDITIONS**

- 7.1 The duration of the pilot project should be approximately 9 months. Pilot projects are not expected to have a budget exceeding S\$50,000 per project. The receipt of the project proposals by A\*STAR is in no way an implication of any commitment to support the proposed activities.
- 7.2 Collaborative research activities should be described in a single proposal in which a single award is requested. Awards will be made to the lead local institution. Distribution and allocation of sub-awards to other institutions must be administrated by the PI and his institute, and must be clearly indicated.

## **8. SUBMISSION AND FURTHER INFORMATION**

- 8.1 All submissions must be made through the SERC's web-based Proposal Administration, Management and Submission (PAMS) system, accessible at <http://pams.a-star.edu.sg>. Online help and instruction are available on PAMS. The application form can be downloaded from PAMS under "Document Downloads". The deadline for proposal submission via PAMS is 15<sup>th</sup> January 2007.
- 8.2 All proposed team members must enter and update their profile into the PAMS system.
- 8.3 After the online submissions via PAMS, hardcopies of the proposals must be submitted to SERC by 22<sup>nd</sup> January 2007 strictly through the respective Office of Research, Principal's (Director's) Office or Agency Headquarters (RI ED's Office).
- 8.4 It is expected that grant recipients will be notified by 15<sup>th</sup> March 2007.
- 8.5 Submission of proposals and clarification should be directed to:

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Singapore 138671  
Email : [chalathorn\\_vashirakovit@a-star.edu.sg](mailto:chalathorn_vashirakovit@a-star.edu.sg)

## **9. ACTIVITY SCHEDULE FOR THE CALL FOR PROPOSALS FOR PILOT PROJECTS**

<b>No.</b>	<b>DATE</b>	<b>ACTIVITY</b>
1	01 Dec 2006	Announcement of Call for Proposals for pilot projects
2	15 Jan 2007	Deadline for submission of proposals to SERC via PAMS
3	22 Jan 2007	Deadline for submission of endorsed proposals (hardcopies) to SERC
4	28 Feb 2007	Completion of assessment

5	15 Mar 2007	Announcement of successful proposals
6	01 Apr 2007	Official commencement of pilot projects