



Strategic Indo-Swedish Cooperative Research Programme in the field of Embedded Systems 2010

**DST (Department of Science and Technology, Government of India)
and VINNOVA (The Swedish Governmental Agency for Innovation Systems)
Joint call for proposals in the field of Embedded Systems 2010**

Last date for submitting proposals: 15 June 2010

I GENERAL DESCRIPTION

1. A programme for innovative embedded systems research through Indo-Swedish cooperation

The Department of Science and Technology, Government of India (DST) and the Swedish Governmental Agency for Innovation Systems (VINNOVA) has agreed to launch a joint call for proposals during 2010 to promote Indo-Swedish research cooperation in the field of embedded systems. DST and VINNOVA hereby invite Indian and Swedish researchers to submit joint project applications for cooperative research projects. This document provides applicants with information on the bilateral cooperation programme and its procedures.

2. Programme goals, approach and research field

The goal of the programme is to support long-term industry-relevant Indo-Swedish research collaboration in the field of embedded systems. In the medium to long term perspective the programme is aiming for results which can be exploited in industry as well as in the public sector in the collaborating countries. The approach is to establish and strengthen collaborative research networks between India and Sweden by funding joint research projects, exchange visits and technical missions.

“Embedded systems” is broadly defined in this programme as computer systems being part of (embedded+ in) complete task-specific hardware-software systems, often having real-time computing requirements.

3. Applications

The cooperative research period shall be 3 years (i.e. 36 months) in total, counting from start date of the project.

An important application criterion is that the proposed project should build on and reinforce already ongoing research activities in each research group. The collaborative research between Indian and Swedish research groups shall contribute significant added value to these activities.

The application shall clearly describe the overall outcome of the proposal (exit plan) and the deliverables for each collaborating team as well as the added value for Indian and Swedish industry.

4. Applicants

The programme is open to Indian and Swedish researchers regularly employed in Indian or Swedish public institutions or private nonprofit organisations engaged in R&D activities (Indian private R&D organisations should be recognised by Ministry of Science & Technology, Government of India). This includes universities and other academic institutions, research institutions, medical institutions and public foundations.

Applicants must be engaged in advanced research in the area of this call prior to and during the full project time. Neither Principle Investigator (PI) should be retired or planning to retire during the proposed period of the project.

Industrial involvement in the project steering groups (or equivalent) is encouraged and should be active, i.e. companies should follow and give input to the setting up and management of the projects. The companies may also directly participate in the projects, though they are not eligible to receive funding from the programme.

All applicants must fulfill national eligibility rules to apply for research grants (see **Annex I** and **Annex II** for specific requirements for Indian and Swedish applicants respectively). For more information on specific requirements, contact the respective funding agency.

5. Financial support

Funding provided within this call is intended to enhance the project participants' capacities to collaborate. The program is designed to support additional expenses related to cooperation with a Swedish counterpart for an Indian researcher or with an Indian counterpart for a Swedish researcher. This includes funding to carry out the joint research, mobility of researchers with a main emphasis on leading-edge researchers, the dissemination of results etcetera. Different principles of eligible costs and cost calculations may apply on the Indian and Swedish sides, respectively. Participating companies should cover their own costs.

Each host institution is expected to extend basic facilities to its researchers. The proposed activities shall be supported by the applicants' use of their own available resources.

Principles for financial support for the exchange visits outlined in the project plan and budget will be as follows: the sending party will provide round-trip economy-excursion class airfare to the relevant entry city of the host country as well as medical insurance. The receiving side will arrange local hospitality (meals, lodging expenses, per diem and local travel) for the visitors. Host institutions must be informed in advance of planned visits in accordance with their specific regulations.

II APPLICATION

1. Common proposal

The Indian and Swedish Principle Investigators shall write a common proposal that must be submitted to both DST (by Indian applicants) and VINNOVA (by Swedish applicants). The proposal shall be jointly written, using English, on a standard proposal form provided to the applicants.

The proposal shall include (also see below and the **Proposal Form**):

- a project description regarding the objective of the collaboration, with clear statements of what Swedish and Indian researchers respectively will do in the project (use work packages to describe the activities and workflow);
- a description of the expected outcome of the proposed project, scientifically as well as in terms of its relevance for industry and society, in the form of Deliverables;
- a description of the ongoing activities and specific strengths of the Swedish and Indian groups respectively, which form the basis for the proposed joint project;
- a description of the expected added value from the proposed joint project, including how the competence, technology and other resources in the different groups complement each other;
- a description of how the project is expected to help strengthen research cooperation between India and Sweden over the longer term;
- a discussion of how the proposed joint project compares with other comparable activities worldwide;
- a plan how to take the results from the project into practical use, including a description of additional competences and/or resources needed.

2. Submission of Applications

To be eligible for consideration, the joint project proposal must be submitted to both DST and VINNOVA so as to reach each side not later than 25 May 2010.

3. Proposal Form

A standard project proposal format has been prepared, and should be used. This is available from the funding agencies. In short the form includes;

- i) Application outline / format :

Title of the cooperative research project
Names of Principle Investigators (PI)

Cooperative research period (must be 36 months long)

ii) **Leaders Information**
CV of Principle Investigators (PI)

** The description shall include a short Curriculum Vitae (CV) from both Indian and Swedish PIs, which include basic information on education, past and present positions and membership of relevant organizations/associations. Each description should not be more than 1/2 page A4.*

iii) **List of names of individuals / Co-PIs involved in the cooperative research project in India and Sweden**

iv) **Description of the cooperative research project which includes**

- Prior art of comparable activities worldwide
- Objective of the project
- Expected outcome
- Ongoing activities and specific strengths of individual groups
- Description of value addition by the proposed collaboration
- Expected long term research cooperation
- Work plan for the cooperative project - Work packages and deliverables
- Handling of contracts and IPR
- Plan for the utilization (exploitation) of the results

v) **Relevant papers and other publications by the Indian-side research leader in the past 5 years (two pages maximum)**

vi) **Relevant papers and other publications by the Swedish-side research leader in the past 5 years (two pages maximum)**

vii) **Plan for the utilization (exploitation) of the results**

4. Preparation of Proposal Form

Please fill in the particulars listed in the Proposal form which is available through DST and VINNOVA.

5. Submission of Proposal for Indian Applicants

Send one original + 5 copies of the applications in hard copy to DST at the following address no later than **15 June, 2010**:

Dr Rajiv Sharma, Advisor, International Cooperation, Department of Science & Technology, Technology Bhawan, New Mehrauli Road, New Delhi-110016.

One digital copy of the application in MS Word format is also required to be sent to rajivdst@nic.in.

6. Submission of Proposal for Swedish applicants

Send applications via the online portal at VINNOVA's webpage www.VINNOVA.se (choose "tjänster" and VINNOVA's "antrassentportal") no later than **15 June, 2010**, at 14.00 hrs. Instructions on how to fill in the application,

information on eligible costs, etcetera, are also available here. Upload the %Project Proposal form+under %Projektbeskriving+, when asked for.

III EVALUATION OF PROJECT PROPOSALS

1. Evaluation Procedure

Committees consisting of experts selected by DST and VINNOVA respectively will evaluate all proposals and report to DST and VINNOVA respectively. DST and VINNOVA will then make a common decision regarding funding of selected proposals

2. Evaluation Criteria

The following general evaluation criteria apply:

i) Conformity with Programme Aims and Designated Research Fields

The proposed activity shall conform to the aims of the programme and the research fields that the programme designates. In addition, the proposed activity shall be supported by the institutional resources available.

ii) Capability of Principle Investigators and research teams (one on each side)

The PIs shall have the insight or experience necessary for pursuing the activity and the ability to manage the cooperation and reach the project goals during this programme's period of support. The teams should have the appropriate competences to carry out the project

iii) Appropriateness of Plan

The plan shall incorporate an appropriate system for implementing the activity as well as the intended exchange of visits. The plan must be realistic in relation to the resources available for the project.

iv) Expected outcome/effect of the joint research project

The proposed activity can be expected to achieve any of the following, through the cooperation:

- Opening up of a new field or new advances in science and technology through the creation of new scientific knowledge in an existing research field.
- Nurturing of researchers able to play a central role in future research exchanges with the counterpart country.
- Sustained development of research exchanges with the counterpart country initiated by this activity.
- Dissemination and/or utilization of the results for public and/or commercial use.

The following specific evaluation criterion applies:

On-going research activity;

- The proposed collaboration shall build on, reinforce and add significant value to already on-going research activities in each research group.

3. Announcement of Decision

Applicants will be notified of the final decision on which projects to support in September 2010.

IV RESPONSIBILITIES OF RESEARCH LEADER AFTER PROPOSAL IS APPROVED *(THIS SECTION IS FOR INDIAN APPLICANTS ONLY)*

(a) Annual Progress Report

At the end of each fiscal year, the PIs shall promptly submit a progress report on the status of research exchange to DST. The Indian institutions with which the PIs are affiliated shall promptly submit financial reports on supported expenses to DST according to the specific national regulations.

(b) Final Report

After completion of the period of the international research exchange, PIs must promptly submit a common final scientific report. The report must include a general summary (maximum five A4 pages) compiled jointly by the Indian and Swedish research groups. If papers describing results of the research exchange are presented to academic journals, societies and so on, copies of such papers must be separately attached to the final report..

(c) Contact Information

DST (India) : Dr. Rajiv Sharma, Adviser, International Cooperation, Department of Science & Technology, New Mehrauli Road, New Delhi . 110 016, E-mail: rajivdst@nic.in

V. RESPONSIBILITIES OF RESEARCH LEADER AFTER PROPOSAL IS APPROVED *(THIS SECTION IS FOR SWEDISH APPLICANTS ONLY)*

After the proposal has been approved, research leaders and their affiliated institutions shall observe the following when carrying out the cooperative research and using the research funds.

(a) Progress Reports

The research leader shall promptly submit progress reports on the status of the research project, and report whether the project is following the financial plan, in accordance with VINNOVA's normal routines. Dates for reporting are stated in the Contract.

(b) Final Report

After completion of the period, project leaders shall promptly submit a final report, including a financial report, on the activities of the research project to VINNOVA,

according to the Terms of the contract (Allmänna och Särskilda Villkor) and the normal procedures of the Agency as well as to DST. The report shall include a common final scientific report (maximum five A4 pages) compiled jointly by both the Indian and the Swedish research groups. A description of format for this report will be sent to the project leaders of successful proposals. The research groups may write the remaining parts of the report separately. The joint summary report shall include a description of what significant added value has been obtained as a result of the project funded under the programme.

Suggestions for how this type of programme for joint funding of research cooperation between India and Sweden can be further developed and improved are highly appreciated. A copy of the Indian report shall be attached to the final report delivered to VINNOVA. Papers presenting results of the research project, published or presented at scientific meetings, should be submitted with the final report. Support from VINNOVA must be duly acknowledged in all papers and publications.

(c) Additional reporting:

In order to develop the international cooperation programmes, VINNOVA may ask for additional information from successful proposals during the project period.

(d) Information for Applicants

Swedish applicants should contact the following for further information:

Jonas Bjarne, VINNOVA
+46 (0)8 473 31 22
jonas.bjarne@VINNOVA.se
www.VINNOVA.se

Tomas Aronsson, VINNOVA
+46 (0)8 473 31 18
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www.VINNOVA.se

ANNEX I

Support by DST (this section is for Indian applicants only)

1. Budget for a Cooperative Research Project

Budgets will differ depending on the content of activities as recommended by the Expert Committee.

2. Cooperative Research Period

The cooperative research period shall be a maximum of 3 years in total, counting from the start date.

3. Details of Support

This programme is designed to primarily support the expenses related to exchange visits and it is expected the main research infrastructure is already in place for each research group. Incremental costs may be considered for support related to project personnel (one JRF/SRF/RA), consumables and minor equipment/ accessories (not costing more than Rs. 5 lakh) based on recommendations of the Expert Committee.

Participating companies are expected to cover their own expenses. Their contribution to the project should be described, i.e. as person years, access to materials and facilities committed.

3.1 Financial release DST

Indian PIs of projects jointly approved by DST and VINNOVA would be contacted to submit information regarding required clearances. The initial financial order releasing grant would be issued after obtaining required clearances. Routines regarding payments and progress reports will be according to DST normal routines. The release of subsequent installments of grant requires that the progress reports are submitted in time and accepted by DST.

3.2 Contract between Researchers

Intellectual Property Rights (IPR) arising from joint ventures in projects in this programme shall be regulated in accordance with relevant laws of the two countries. The ownership, title and patent rights as well as other rights accruing shall be handled according to the agreement signed by the participants in that specific joint venture. If a contract for cooperative research is necessary for implementing actual research cooperation, such a contract should be concluded between the Indian institutions and the Swedish institutions (including companies, if applicable). If an agreement is already concluded, it should be reported in the application. If not agreed on before the application is submitted, a plan on how to arrive at an agreement should be presented there.

3.3 Exchange visit costs: Travel expenses and local hospitality directly related to the execution of the joint project is covered as follows:

a. Expenses for researchers from the Indian side

International air fare from city of work to the city of host institute and related local travel in India, overseas medical insurance for the visit period and visa fee for Indian participants.

b. Expenses for visiting researchers from the Swedish side

Local hospitality for Swedish Researchers including lodging, boarding, local travel in India and per diem.

ANNEX II

Support by VINNOVA (this section is for Swedish applicants only)

1. Budget for a Cooperative Research Project

Budgets will differ depending on the content of activities. However, it is important that the applicants can describe the total amount their resources being put into the project, both those asked for in the proposal and those already available to the project team. The budget items used are described in VINNOVA's ~~portal~~ ~~atressentportal~~ (also see item 3.3 below). Budget figures are only presented in the electronic on-line application form at this website.

The proposal should present the number of ~~person years~~ ~~participating~~, divided into the groups: ~~senior researcher~~, ~~junior researcher~~, Post-doc, PhD student and technical staff. These include both those funded directly by the proposed project and those committed by the group/institution but funded from other sources. Also the use of major facilities and equipment should be listed in the percentage of usage or hrs/days/weeks rather than actual costs (which is stated in electronic application form above). Use the ~~form 8E~~ of the common proposal form.

2. Cooperative Research Period

The cooperative research period shall be a maximum of 3 years in total, counting from the start date.

3. Details of Support

This programme is designed to support additional expenses related to cooperation with the Indian partner, with the precondition that the main research infrastructure is already in place for each research group.

Participating companies are expected to cover their own expenses. Their contribution to the project should be described, i.e. as person years, access to materials and facilities committed.

3.1 Contract between Applicant and VINNOVA

Support will be implemented after confirmation has been received regarding start of project, in accordance with VINNOVA's normal routines for project funding. Routines regarding payments and progress reports will also be according to VINNOVA normal routines (~~Lägesrapportering~~). The payments of funding also require that the progress reports are submitted in time and accepted by VINNOVA.

3.2 Contract between Researchers

Intellectual Property Rights (IPR) arising from joint ventures in projects in this programme shall be regulated in accordance with relevant laws of the two countries. The ownership, title and patent rights as well as other rights accruing shall be handled according to the agreement signed by the participants in that specific joint venture. If a contract for cooperative research is necessary for implementing actual research cooperation, such a contract should be concluded between the Indian institutions and the Swedish institutions (including companies, if applicable). VINNOVA is not a part in such agreements. If an agreement is already concluded, it should be reported in the application. If not agreed on before the application is submitted, a plan on how to arrive at an agreement should be presented there.

***Note;** In Sweden teachers are exempt from the regulations in Act (1949:345) on the right of employers to inventions; teachers at universities, colleges or other establishments that belong to the education system have the right to their inventions. This so-called "Teacher exemption" means that the employers of teachers, unlike the rules which apply to other employer-employee relationships, cannot make legal claim to the inventions of the teacher, unless special agreements to this effect have been concluded.*

3.3 Approved direct cost for the subsidies (grant)

(1) Funded direct costs (subsidy) include costs for performing research activities and implementation of research exchanges.

- Cost allowed by VINNOVA in the document *Merket för innovationssystem (VINNOVAs) allmänna råd om godkända kostnader och godkänd medfinansiering i bidragsärenden* (called *Vilka kostnader är godkända* in this document) . see; <http://www.vinnova.se/Finansiering/Anvisningar-for-elektronisk-ansokanskiss/Vilka-kostnader-ar-godkanda/>. A translated version in English is available from the programme manager. A programme-specific calculation of travel expenses and local hospitality is described below.
- Participating companies are expected to cover their own costs.
- For successful proposals, VINNOVA will retain the right to make budget adjustments, after discussions with the applicants.
- Please refer to the guidelines in the above mentioned document for details for the following budget items:
 - 1) Salary costs for the Swedish researchers actively participating in the joint research project. *Alternative A+* is the most commonly used calculation model for academic settings.
 - 2) Consultancy cost is allowed only after confirmation by VINNOVA.

- 3) Material costs necessary for the project are allowed (i.e. expenses for procurement of raw materials, consumables, chemicals, etc)
- 4) Expenses for intellectual property rights: Certain cost protection of intellectual property rights can be covered. See the document %vilka kostnader är godkända+for details.
- 5) Travel costs: Travel expenses and local hospitality directly related to the execution of the joint project is covered.

- a. Expenses for researchers from the Swedish side

Cost of travel (domestic and international) for Swedish participants should be included in the budget. See the document %vilka kostnader är godkända+for details. Only cost for travel is covered if local hospitality is provided by the hosts.

- b. Expenses for visiting researchers from the Indian side

In this programme, VINNOVA would provide local hospitality for Indian-side Researchers which would include lodging, boarding, local travel and per diem. Cost for local hospitality for Indian Researchers in Sweden should be included in the budget of the proposal (listed under the budget item %Övriga kostnader+).

See the document %vilka kostnader är godkända+for details.

- 6) Other costs:

- Cost for equipment: Since the project is premised on making full use of existing facilities and equipment, only expenses for equipment essential for the research project are covered. See the document %vilka kostnader är godkända+for details, or contact VINNOVA.
- Cost for hospitality: See %Travel costs+
- Cost for communication of results, including scientific publications. Expenses related to organizing symposiums and so on essential to the outcome of the project, i.e. project meetings or workshops with participants, are covered and should be included in the proposal's budget.
- Other direct project costs not listed above

- 7) Cost for premises is normally included in the supplement for indirect costs.

- 8) Indirect costs (Institutional overheads)

Indirect costs are costs that are not specific to the project. Indirect costs are calculated as a 35 per cent supplement to the direct costs incurred by the project. See the document %vilka kostnader är godkända+ for details on calculation.

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