



**Innovation Fund Denmark**

**Joint Call for project proposals  
2019 - Indo-Danish Research and Innovation Cooperation  
in the areas of Cyber physical systems**

*Announcement of Call for Proposals : November 15, 2019, 2019  
Deadline for Submitting Proposals: March 17, 12.00 Danish Time, 15.30 Indian Time, 2020*

Innovation Fund Denmark (IFD) and Department of Science and Technology (DST), Ministry of Science & Technology, Government of India, announces joint call for submission of project proposal in the area “*Cyber Physical Systems*”. This is in pursuance to the agreement of May 22, 2018, between the Government of the Republic of India and the Government of Denmark on cooperation in the fields of Science, Technology and Innovation.

**1. Prioritised research and innovation area**

**Cyber Physical Systems:** Cyber physical systems (CPS), which are generally concerned with software and data dedicated to complex physical systems, having the purpose of creating smarter and more user-friendly solutions for the involved societies. Examples for the sub-topics include:

- i. Big data analytics
- ii. Artificial intelligence and cognitive computing
- iii. Cloud technologies
- iv. Network security
- v. Smart ICT solutions for urban or rural areas

**2. Application procedure**

The Danish and Indian applicants will develop one joint Project plan and the plan will be sent to both Denmark IFD and India (DST) using the forms of each organisation, respectively.

Project proposal must include the name of one Principal Investigator (PI) each in India and Denmark. On the Indian side it is advised to include one Co-PI in the proposal. The applications must include a statement on how the proposed collaboration brings added valued for both countries.

On the Indian side PIs and other investigators should either be scientists, researchers or faculty members regularly employed by government-recognized universities, academic institutes, national research and development laboratories or institutes. Neither PI should be retired or planning to retire during the proposed period of the project. **Please note that on the Indian side applicant**

**already implementing two projects funded by the International Division of DST is not eligible to submit the project against this call.**

### **3. Selection Criteria and Evaluation**

DST and IFD will select the proposals according to their respective institutional procedures and assessment criteria. Special emphasis will also be placed on the following criteria:

- The projects should have industrial perspective, and participation from both Indian and Danish companies is strongly encouraged.
- Innovativeness in project proposal.
- The proposed research and innovation project should be well integrated on the Indian and Danish side.
- Research and innovation activities of importance to the expected outcome should be conducted on both sides and that the project activities should be evenly distributed among Indian and Danish applicants from research institutions and companies

### **4. Funding**

The successful projects will be funded in Denmark by IFD and in India by the Department of Science & Technology (DST). The joint projects must meet the criteria of the funding agencies. 2 to 3 projects may be funded against this call for a maximum of three years. Significant co-financing as well as the participation of relevant public partners and/or private enterprises other than the main applicants is encouraged.

The project budget must clearly delineate justified Indian and Danish costs. The costs of the Indian partner must be eligible as per the guidelines of the DST. Accordingly, the costs of the Danish partner must be eligible as per the guidelines of the IFD. As the joint projects are funded in bilateral mode the mobility between the two countries should be balanced. Applicants are reminded to include sufficient budget for travel between India and Denmark to ensure successful collaboration. The sending side will provide round-trip economy-class airfare to the relevant entry city of the host country as well as medical insurance. The receiving side will provide accommodation and living expenses, i.e., transportation for pick-up service to and from the airport, food or per diem, etc.

#### **Kind of support available on the Indian side**

- **Support for research expenses:** DST would support expenditure on Indian side of the project towards consumables, minor accessories and contingency. **Participating Indian institutions are responsible for expenses regarding EQUIPMENT.**
- A maximum of 30 - 40% of the Indian side's budget may be allowed for consumables and accessories.
- Participation of Research students would be encouraged. On the Indian side Fellowship to one student to each group (Project Assistant/JRF/SRF/RA) can be supported.
- **Support for Exchange visit component:** The sending side will provide round-trip economy-class airfare to the relevant entry city of the host country as well as medical insurance. The receiving side will provide accommodation and living expenses, i.e.,

transportation for pick-up service to and from the airport, food or per diem, etc. On the Indian side two persons per year with a maximum of two months stay at a time will be allowed;

- **Institutional Overhead:** Institutional Overhead will be determined in accordance with specific R&D program regulation of Indian and Danish governments.
- While the exact nature of expenditure is not fixed, the following may not be funded from this allocation: consultant's fees, educational expenses, insurance and medical care, equipment, project management fees, temporary staff fees, etc.

## 5. Proposal Requirements

Proposals must attempt to fully disclose the research ideas and approaches. It is important that proposals are well crafted and provide substantive description of the research plan for a fair review of the scientific/technical plans and approaches. Proprietary or confidential information must be clearly indicated in the proposal. Proposals must not be duplicative or substantially similar to any previous project or proposal submission.

## 6. Deadline and Submission

The proposal, in English, must be submitted to both DST and IFD no later than 12:00 hrs (Danish time) and 15.30 hrs (IST) on **17<sup>th</sup> March 2020**.

### Submission in India:

- **Applications addressed to the Department of Science and Technology (DST)**  
The Indian applicants apply for funding from the DST in accordance with the DST's guidelines. DST advises applicants to make sure that their cooperation partner is eligible to apply for funding from IFD. Please note that the Danish partner's signature (scanned version) is required in the application addressed to the DST by the Indian partner.

The Indian researchers can download the proposal formats from websites [www.dst.gov.in](http://www.dst.gov.in) / [www.onlinedst.gov.in](http://www.onlinedst.gov.in) and should submit completed application form and all relevant information. Proposals must be submitted to DST through the e-application system provided at [www.onlinedst.gov.in](http://www.onlinedst.gov.in). Indian Applicants also requested to send **three hardcopies** (1 original + 2 copies) to DST by 20th March 2020 to Dr. Rajiv Kumar, Scientist E, DST through proper channel. It should be ensured that application with identical title has been submitted by his / her Danish counterpart to IFD by due date.

### Submission in Denmark

The guidelines for the Danish applicants are described in the Guidelines for Grand Solutions, published on December 2018, however only registered legal entities in Denmark are eligible for investments from IFD. Foreign subcontractors are allowed after approval by IFD. For details visit [here](#). The application including the appendix A, B, C and budget

should describe the joint proposal and not just the part conducted by the Danish partners. Please note that the budget file template calculates the total investment rate for all the project partners, however the Danish applicants applying to IFD should make sure that the applied investment rates comply (both the individual and total) with the investment rates mentioned in the Guidelines for Grand Solutions.

Proposals must be submitted in Denmark through the application system [www.e-grant.dk](http://www.e-grant.dk)

## 7. Assessment

The joint project proposals are evaluated in India and Denmark according to national procedures and the bilateral evaluation criteria listed above. A consensus decision on proposals selected for funding is expected between DST and IFD in **July 2020**.

## 8. Contact details

### India:

Dr. Rajiv Kumar  
Scientist 'E'  
Department of Science and Technology,  
Technology Bhawan,  
New Mehrauli Road,  
New Delhi-110016 (India)  
E-mail: [rajivarc@nic.in](mailto:rajivarc@nic.in),  
<http://www.dst.gov.in/www.onlinedst.gov.in>

### Denmark:

#### Innovation Fund Denmark

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Scientific Officer  
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Børge Lindberg  
Scientific Officer  
Email: [boerge.lindberg@innofond.dk](mailto:boerge.lindberg@innofond.dk); Tel.: +45 6190 5012

Martin Kyvsgaard  
International Coordinator  
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**DST – Innovation Fund Denmark Call for Joint Research Proposals  
Application Forms for Joint Research Projects  
(For Indian Scientists)**

Ref No. \_\_\_\_\_

(to be filled by DST/)

**PART-A PROJECT IDENTIFICATION**

1. Research Field for Cooperation :
2. Sub-field of Proposed Research Field :
  
3. Title of Joint Research Project
  
  
4. Proposed Period of Joint Research Project : \_\_\_\_\_ Months
5. Proposed Budget from Indian Side : Rs.
6. Proposed Budget from Danish Side : Euro.
7. Indian Principal Investigator (PI):  
Name : \_\_\_\_\_ Date of Birth : \_\_\_\_\_  
Designation : \_\_\_\_\_  
Organization : \_\_\_\_\_  
Division/ Department \_\_\_\_\_  
Postal Address \_\_\_\_\_  
  
Telephone No. : (Office) \_\_\_\_\_ (Residence) \_\_\_\_\_  
Fax No. \_\_\_\_\_ E-Mail \_\_\_\_\_
8. Danish Principal Investigator (PI):  
Name : \_\_\_\_\_  
Designation : \_\_\_\_\_  
Organization : \_\_\_\_\_  
Division/ Department \_\_\_\_\_  
Postal Address \_\_\_\_\_  
  
Telephone No. : (Office) \_\_\_\_\_ (Residence) \_\_\_\_\_  
Fax No. \_\_\_\_\_ E-Mail \_\_\_\_\_

9. Indian Co-Principal Investigator (Co-PI):

Name : Date of Birth :  
Designation :  
Organization :  
Division/ Department  
Postal Address  
Telephone No. : (Office) (Residence)  
Fax No. E-Mail

10. Danish Co-Principal Investigator (Co-PI):

Name :  
Designation :  
Organization :  
Division/ Department  
Postal Address  
Telephone No. : (Office) (Residence)  
Fax No. E-Mail

11. Other Researchers in Indian Research Team

11.1 Name : Date of Birth :  
Designation :  
Organization :  
Division/ Department  
Telephone No. : (Office) (Residence)  
Fax No. E-Mail

11.2 Name : Date of Birth :  
Designation :  
Organization :  
Division/ Department  
Telephone No. : (Office) (Residence)  
Fax No. E-Mail

11.3 Name : Date of Birth :  
Designation :  
Organization :  
Division/ Department  
Telephone No. : (Office) (Residence)  
Fax No. E-Mail

11.4 Name : Date of Birth :  
Designation :  
Organization :  
Division/ Department  
Telephone No. : (Office) (Residence)  
Fax No. E-Mail

11.5 Name : Date of Birth :  
Designation :  
Organization :  
Division/ Department  
Telephone No. : (Office) (Residence)  
Fax No. E-Mail

## 12. Other Researchers in Danish Research Team

12.1 Name :  
Designation :  
Organization :  
Division/ Department

12.2 Name :  
Designation :  
Organization :  
Division/ Department

12.3 Name :  
Designation :  
Organization :  
Division/ Department

12.4 Name :  
Designation :  
Organization :  
Division/ Department

12.5 Name :  
Designation :  
Organization :  
Division/ Department

**B. TECHNICAL INFORMATION**

1. Aim / Joint Abstract of the Project: (What will you achieve with the project?)
2. Justification for collaboration :  
(Why do you want to make the project as a joint Indo-Danish project?)
3. State-of-the-art
4. Relevance of the project
5. Research plan:  
(no more than 8 / 15 pages for individual / consortium proposals respectively), including a clear description of the planned research and research collaboration, Year-wise and country-wise distribution of work and methods of implementation and description of any researcher training to be carried out within the project.
6. Risk Management :  
(Identify, assess and prioritise the most important risks in the project with reference to the listed milestones. Briefly describe the plan to mitigate the specific risks and reduce the projects overall risk profile.)
7. Technology Readiness Levels (TRL)  
[State the projects expected start and end Technology Readiness Levels (TRL) and also provide comments, if any]  
**Start TRL: [ ]                      End TRL: [ ]**
8. Societal Readiness Levels (SRL)  
[State the projects expected start and end Societal Readiness Levels (SRL) and also provide comments, if any]  
**Start SRL: [ ]                      End SRL: [ ]**
9. Legal, ethical or regulatory demands:
10. Value creation - growth and employment:
11. Project outcome recipients:
12. Implementation:
13. Intellectual Property Rights :  
(Are any of the expected results likely to have commercial value? How do you propose to share intellectual property rights?)

12. Facilities related to project activity available at the institutions where the project will be carried out:

At the Collaborating Indian Institutions	At the Collaborating Danish Institutions



13. Number of exchange visits required to achieve the project objectives (Year wise)

	INDIA TO DENMARK		DENMARK TO INDIA	
	Number of persons x visits	Duration for each person's visit	Number of persons x visits	Duration for each person's visit
1 <sup>st</sup> Year				
2 <sup>nd</sup> Year				
3 <sup>rd</sup> Year				

14. Expected final results of Cooperation (e.g. joint publications, patents etc.)

Are any of the expected results likely to have commercial value? (Up to 100 words)

15. Bio-data of Indian and Danish investigators to be attached as annexures.

(Description should highlight the expertise of PI(s) and other members of the project team in the proposed field of work supported by citing relevant publications only. (To be appended in about 2 pages).

**16. Research History of both PIs. (Ongoing / Completed projects with the PIs (last 5 years))**

**Indian PI**

**National Projects:**

S. No.	Project Title	Sponsoring Agency	Budget	Status

**International Projects:**

S. No.	Project Title	Name of the Collaborating Scientist & Institute	Sponsoring Agency	Budget	Status

## Danish PI

### **National Projects:**

S. No.	Project Title	Sponsoring Agency	Budget	Status

### **International Projects:**

S. No.	Project Title	Name of the Collaborating Scientist & Institute	Sponsoring Agency	Budget	Status

### **C. Proposed Project Budget from the Indian Side and its justification**

#### 1. Summary of Budget Estimates (in Rupees)

Item	1st Year	2nd Year	3rd Year	Total
1. Salaries/wages				
2. Consumables				
3. Travel				
4. Exchange Visits				
5. Contingency **				
6. Other costs, if any				
TOTAL				

#### 2. Details of Budget proposed for Salaries/ Wages(in Rupees)

		1st Year / (m.m.*)	2nd Year / (m.m.)	3rd Year / (m.m.)	Total / (m.m.)
Designation	Monthly Emoluments				
Total					

\*m.m.: man months to be given within brackets before the budget amount

#### 2.1. Justification for the manpower requirement.

3. Details of Budget proposed for Consumable Materials budget (in Rupees)

S.No.	Item	1st Year	2nd Year	3rd Year	Total
	Total				

3.1 Justification for consumable (Quantified list to be provided)

4. Details of Budget proposed for Internal Travel budget in India (in Rupees)

	1st Year	2nd Year	3rd Year	Total
Number				
Budget in Rs.				

4.1 Justification for travel .

\*\* Please note under the contingency head, budget for only expected contingent expenditure should be project. As per DST norms maximum Rs. 50,000 per year is allowed under the contingency head.

5. Details of Budget proposed for exchange visits and estimated expenditure:

	1st Year	2nd Year	3rd Year	Total
India – Denmark				
Number of persons x visits				
Expenditure on Airfare, visa, transport and related expenditure in India				
Denmark – India				
Number of visits and Mandays for each visit				
Expenditure on Hospitality (per diem @ 2500 per day including local transport + accommodation) for short term visit upto 21 days and for longterm visit for 2 months (per diem @ 25000 per month including local transport + accommodation)				
Total budget				

5.1 Justification for travel .

6. Details of Budget proposed for Contingencies/ other costs Budget (in Rupees)

	1st Year	2nd Year	3rd Year	Total

6.1. Justification for specific costs/ contingences

7. List of facilities being extended by parent institution(s) for the project implementation.

8. Equipment available with the Institute/ Group/ Department/ Other Institutes for the project:

Equipment available with	Generic Name of Equipment	Model, Make & year of purchase	Remarks including accessories available and current usage of equipment
PI & his group			
PI's Department			
Other Inst In the region			

9.. Details of any other item of budget proposed and its justification

**D OTHER SOURCES OF SUPPORT**

**1 Is this research currently being supported by other sources?**

YES	NO
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If yes, please indicate the sources, amounts and periods of support.

**Indian side:**

**Danish side:**

**2 Has this project been submitted to other agencies for financial support?**

YES	NO
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If yes, please indicate which agencies, and when.

**Indian side:**

**Danish side:**

**3. Please indicate name of atleast 3-4 Indian senior scientists working in this field:**

NO	NAME	INSTITUTION	TEL & POSTAL ADDRESS	E-MAIL
1.				
2.				
3.				

SIGNATURES OF THE INDIAN AND DANISH PRINCIPAL INVESTIGATORS

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INDIAN

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DANISH

DECLARATION FROM THE HEADS OF THE COLLABORATING INSTITUTIONS

It is certified that:

- (i) The Institutions agree to participate in this joint research project;
- (ii) The Institutions shall provide infrastructure and necessary facilities for implementing the joint project;
- (iii) The Institutions assume to undertake financial and other management responsibilities for the part of the project work to be carried out at their institution; and
- (iv) The back-up funding for human resources, consumable, etc. is available to this project.

SIGNATURE & SEAL OF THE HEAD OF THE INSTITUTIONS

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INDIAN

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DANISH