

Project Proposal Submission Format

SUMMARY OF PROPOSAL TO DRDO Dte of ER&IPR (ER & RBs) FOR RESEARCH GRANT (Under Grants-in-Aid) (All fields are mandatory)									
1. Proposal (Title): Keywords (4-5): Type of Institution: (a) Govt / Non-Govt / Private (*) (b) University/College/PSU/R&D Centre /Autonomous (Regn No.) (*) For Private institute, attach valid recognition certificate from UGC/AICTE/Govt bodies			(For DRDO Use Only) Date Received: /...../ ER, RB File Number: ER/NRB/ARMREB/SSSRB/ AR&DB						
2. Principal Investigator (PI): Name: Designation: Department: Institution:		3. Date of Birth (The remaining service must be at least PDC of project + 01 year) <table border="1"> <tr> <td>DD</td> <td>MM</td> <td>YY</td> </tr> <tr> <td></td> <td></td> <td></td> </tr> </table> Sex: M / F		DD	MM	YY			
DD	MM	YY							
4. PI's address (office): Phone: Email: Pin code Mobile: Fax:		5. Co-Investigators (Co-PIs) (At least one Co-PI must be included preferably from the same Institution): a) Name: Address: Phone & Mobile: Email: b) Name: Address: Phone & Mobile: Email:							
6. (a) Main objectives (Point wise, Precise and Unambiguous) Detail (micro-objectives) may be mentioned in Section-A (b) Deliverables focused to DRDO program (Point wise, Precise, Verifiable and Quantifiable)									
7. Name of collaborating DRDO lab(s), if any, in the current proposal									
8. Two best publications <u>ONLY</u> in the field by the PI in <u>Last Two Years</u> and brief references to any patents filed or technologies developed									

9. Proposed expenditure on ▼ (in INR) during ➤	Year 1	Year 2	Year 3	Line total
a) Staff: (JRF/SRF/RA/PA etc)				
b) Equipment (including spares thereof)				
c) Software				
d) Operation and maintenance of equipment (Fund is not allowed in first year)				
e) Expendables/ Consumables				
f) Travel (Domestic only and not more than 3%)				
g) Contingencies (not more than 3%)				
h) Visiting Faculty or Research Consultant(s)				
i) Workshops (Related to project proposal only)				
j) Procured services and metered utilities				
k) Institutional overheads (10% only on a + b + e) (use year wise proportional figures)				
Column total (in INR)				
10. References to other ongoing projects with, or proposals made to, DRDO/other (including foreign) agencies:				
Funding agency	Amount (Rs.)	Period	Title	
11. RTGS/ Cheque to be issued in favor of:				
12. Administrative authority of Grantee Institution forwarding proposal		13. Principal Investigator (PI):		
(Signature with Seal and Full Name & Designation)		(Signature with Seal and Full Name & Designation)		

APPLICATION FOR GRANT OF RESEARCH PROJECT

One hard copy in case of online submission, otherwise four hard copies duly signed by PI & concerned administrative authority with supporting documents at appropriate places, to be submitted to one of following:

1. **The Director**, Directorate of Extramural Research & Intellectual Property Rights (Dte of ER&IPR), DRDO HQrs Annexe, 5th Floor, NTB Metcalfe House, Civil Lines, Delhi- 110 054
Email: erip-er.hqr@gov.in

2. **The Member secretary**, Naval Research Board (NRB), DRDO HQrs Annexe, 4th Floor, NTB Metcalfe House, Civil Lines, Delhi- 110 054, **Email:** msnrb.hqr@gov.in

3. **The Member secretary**, Armament Research Board (ARMREB), DRDO HQrs Annexe, 4th Floor, NTB Metcalfe House, Civil Lines, Delhi- 110 054, **Email:** armreb.hqr@gov.in

4. **The Member secretary**, Soldier Support System Research Board (SSSRB), DRDO HQrs Annexe, 4th Floor, NTB Metcalfe House, Civil Lines, Delhi- 110 054, **Email:** lsrb.hqr@gov.in

5. **The Member secretary**, Aeronautics Research and Development Board (AR&DB), DRDO HQrs Annexe, 4th Floor, NTB Metcalfe House, Civil Lines, Delhi- 110 054, **Email:** ardb.hqr@gov.in

CONTENT OF THE PROJECT PROPOSAL

S.No.	Content	Page No
SECTION-A		
1.	Title of Research proposal	
2.	Type of Project: Basic/ Applied/ Futuristic	
3.	Problem Statement	
4.	Scope/Aims of the Research Proposal	
5.	Objectives (Point wise, Precise and Unambiguous)	
6.	Deliverables (Point wise, Precise, Verifiable and Quantifiable)	
7.	Deliverables specific to Software / firmware intensive Projects	
8.	Proposed duration of the research proposal	
9.	Novelty in proposed work	
10.	Amount of grant proposed (with justification)	
11.	Department of the Institution where research will be carried out	
12.	Figures of Merits	
13.	Technology Readiness Level (TRL) level	
14.	Potential Applications	
15.	Scientific Importance of the project & Relevance to DRDO	
16.	Brief review of the state-of-art in the field (National & International in detail with proper references)	
17.	Feasibility Study	
18.	Methods and Procedure	
19.	Gantt chart (Task with time lines) for Quarterly/ biannual review of project progress	
20.	Details of Six-monthly milestone/deliverables	
21.	Criticality of the proposed work/technology	
22.	Risks assessment of the project objectives and deliverables:	
23.	Future scope of proposed work	
24.	Facilities available for carrying out the proposed research work	
25.	Previous work done in this or related fields	
26.	Biographical sketch of investigator(s) in brief and point wise	
27.	Research support for other projects of the applicant from various sources	
SECTION-B		
28.	For Private institute, attach valid recognition certificate from UGC/ AICTE/ Govt. bodies	
29.	For life sciences project following certificate to be provided as applicable: - Institutional ethical clearance and project approval - Clearance from the nuclear medicine committee of BARC and - Clearance from Institutional Bio safety committee. - Projects involving DNA/ genetic engineering work should be examined and certified by the Institutional Bio-safety	

	committee (IBSC), Lodhi road, Delhi.	
30.	Certificate from Grantee Institution	
31.	Endorsement-cum-NoC for collaborative project from each of the Competent Authority in case of more than one institution involved in the project proposal	
32.	Consent letter from Co-PIs in case Co-PI is from other institute	
33.	Certificate of employment from Competent Authority	
34.	Certificate of assurance from Competent Authority for project completion and closure document submission	
35.	Reasonability certificate in r/o Budgetary Quotations	
36.	Certificate for availing/ not availing HRA	
37.	Disclosure of linkages with Chinese/ Hong Kong Entities or Personnel	
38.	Certificate of no duplication of equipment at Grantee Institution	

Section 'A'

- 1. Title of Research proposal (Make the title concise & specific):**

- 2. Type of Project: Basic/ Applied/ Futuristic/ Blue-Sky**

- 3. Problem Statement:**

- 4. Scope/Aims of the Research Proposal:**

- 5. Objectives (Point wise, Precise and Unambiguous):**

- 6. Deliverables (Point wise, Precise, Verifiable and Quantifiable):**
(Note: (i) For software/Firmware intensive projects please refer point 7 of this section
(ii) The deliverables should only include tangible outcomes of the project such as literature survey document, process documents, joint publications/IPR, schemes/design document, test and characterization reports, simulation/analysis reports, material/samples, device, software/firmware, Source code, prototype/sub-system/system etc. along with specifications wherever applicable)

- 7. Deliverables specific to Software / firmware intensive Projects (kindly specify):**
 - (i) Documents consisting of Review of state of art, Details of work carried out earlier, mathematical formulation, conclusion in soft copy, patents, copyrights, tactical knowledge generated, Softcopy on DVD.
 - (ii) Firmware, software, numbers, Installation manual, user manual, Use cases for demo., Detailed design document, HLA, Flow chart of firmware, PCB layout details, HDL implementation code, FEM analysis, Datasheet of components, Simulation results along with test cases, Softcopy on DVD.
 - (iii) Software architecture design document, Commented source code, Object code, libraries used, executables, data set used, test cases, documents for setup, running of software also on DVD.

- 8. Proposed duration of the research proposal with proper justification:**

- 9. Novelty in proposed work:**

10. Amount of grant proposed (with justification):

(Note: In case of multiple institutes the separate table for each institute and consolidated table should be provided. However, funds will be released only to the Principal Investigator's Institution)

Proposed expenditure on ▼ (Rs. in INR) during ➤	Year 1	Year 2	Year 3	Line total
a) Staff: (JRF/SRF/RA/PA etc)				
b) Equipment (including spares thereof)				
c) Software				
d) Operation and maintenance of equipment (Fund is not allowed in first year)				
e) Expendables/Consumables				
f) Travel (Domestic only and not more than 3%)				
g) Contingencies (not more than 3%)				
h) Visiting Faculty or Research Consultant(s)				
i) Workshops (Related to project proposal only)				
j) Procured services and metered utilities				
k) Institutional overheads (10% only on a + b + e) (use year wise proportional figures)				
Column total (Rs. in INR)				

JUSTIFICATIONS

Proper justifications must be provided for the quantity required, usefulness of the particular item/ staff/ budget head in proposed work etc.

- a. Staff (Designation, number & pay for each post to be given as per DST/ Institution norms along with Official Memorandum of DST or Grantee Institute in r/o remunerations to the staff)**

SN	Position name	Monthly basic stipend (in INR)	HRA @....	Total Stipend (in INR)	Qty required	Duration	Justifications/ Specific Role of staff in the project
1.							
2.							

- b. List of equipment proposed with budgetary quotations**
(The enclosed budgetary quotations must be numbered and referred)

SN	Name of the items	Unit Price (including shipping, handling, & freight charges) (in INR) *exchange rate	Custom Duty @...% (in INR)	GST @...% (in INR) (GST is calculated on Unit Price + Custom Duty)	Qty required	Total Cost (in INR)	Justifications and BQ number.
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		need to be mentioned in case of imported items					
1.							
2.							

NOTE: (i) Equipment purchased under GIA projects are property of DRDO. The decision wrt retention/ return of equipment will be taken by Competent Financial Authority of DRDO at the end of the project duration.

(ii) **For high value equipment PI must explore the feasibility to use the same from nearby/close DRDO lab, otherwise justify.**

c. List of software proposed with budgetary quotations

(The enclosed budgetary quotations must be numbered and referred)

SN	Name of the items	Unit Price (including shipping, handling, & freight charges) (in INR) *exchange rate need to be mentioned in case of imported items	Custom Duty @...% (in INR)	GST @...% (in INR) (GST is calculated on Unit Price + Custom Duty)	Qty required	Total Cost (in INR)	Justifications and BQ number.
1.							
2.							

NOTE: Software purchased under GIA projects are property of DRDO. The decision wrt retention/ return of software will be taken by Competent Financial Authority of DRDO at the end of the project duration.

d. Operation and Maintenance of Equipment (fund is not allowed in first year)

(The enclosed budgetary quotations must be numbered and referred. **Budget under this head can only be asked for service contracts/AMC for maintenance of equipment procured under this project beyond guarantee/warranty period)**

SN	Name of the items	Unit Price (including shipping, handling, & freight charges) (in INR) *exchange rate need to be mentioned in case of imported items	Custom Duty @...% (in INR)	GST @...% (in INR) (GST is calculated on Unit Price + Custom Duty)	Qty required	Total Cost (in INR)	Justifications and BQ number.
1.							
2.							

e. Expendables/ Consumables (Chemicals, Substrates, Glassware, photographic materials etc.)

(The enclosed budgetary quotations must be numbered and referred)

SN	Name of the items	Unit Price (including shipping, handling, & freight charges) (in INR) *exchange rate need to be mentioned in case of imported items	Custom Duty @...% (in INR)	GST @...% (in INR) (GST is calculated on Unit Price + Custom Duty)	Qty required	Total Cost (in INR)	Justifications and BQ number.
1.							
2.							

f. Travel (only Domestic)

(Not exceeding 3% of the project budget excluding Travel and Institutional Overhead)

(Include proper justification)

g. Contingencies (Postage, Stationary, typing, Review meetings, Misc. etc.)

(Not exceeding 3% of the project budget excluding Contingency and Institutional Overhead)

Items costing less than Rs. 10,000/- do not require budgetary quotations. **However, brief speculative breakdown of cost must be included.**

SN	Name of the items	Unit Price (including shipping, handling, & freight charges) (in INR) *exchange rate need to be mentioned in case of imported items	Custom Duty @...% (in INR)	GST @...% (in INR) (GST is calculated on Unit Price + Custom Duty)	Qty required	Total Cost (in INR)	Justifications and BQ number.
1.							
2.							

h. Visiting Faculty or Research Consultant(s), if any

(**Note:** It is expected that the main expertise to carry out the proposed research work lies with the PI and their team. Hence, this requirement needs to be strongly justified and details in r/o charges, hrs/days required, qty etc. need to be mentioned. Further, the *Institute's official guidelines/ OM w.r.t. approved honorarium/TA/DA etc.* for research consultants along with details of proposed consultants viz., expertise, role in the project etc. need to be clearly brought out)

SN	Name	Charges (in INR) Per Hr/ day	Hrs/ Days required	Total (in INR)	Qty required	Duration (required in which year)	Justifications
1.							
2.							

i. Workshops ((Related to proposed work)

Funds will not be provided in this head without detailed justification mentioning the necessity.

(Note: Workshops in the context of Grants-in-Aid project are a platform to disseminate knowledge generated during the execution of the project with various stakeholders from DRDO and Grantee Institution. The speakers also should be from within the Grantee Institute or DRDO labs. The workshop may be conducted in second and third year only.)

j. Procured services (Fabrication, characterization etc.)

(The enclosed budgetary quotations must be numbered and referred)

SN	Name of the items	Unit Price (including shipping, handling, & freight charges) (in INR) *exchange rate need to be mentioned in case of imported items	Custom Duty @...% (in INR)	GST @...% (in INR) (GST is calculated on Unit Price + Custom Duty)	Qty required	Total Cost (in INR)	Justifications and BQ number.
1.							
2.							

11. (i) Department of the Institution where research will be carried out:

(ii) Other departments, if any, which will cooperate in this study (Mention name of DRDO Lab also if any)

12. Figures of Merits:

(A Figure of Merit (FOM) is a performance metric that assess the performance or efficiency of a device, system, technology, process or method, relative to its alternatives. It serves as a standardized measure for comparison, facilitating the evaluation of different solutions).

Figures of merit relevant to Aim/Objectives/Deliverables /Targeted area of project proposal:

Property	Parameter(s)	Measurement Methodology	Current Value (As per feasibility study done by PI/ as per international values reported in literature)	Targeted Value at the end of the project	Confidence level to achieve the proposed parameters at the end of the project (1-10)
a)	i)				
	ii)				
					
b)	i)				
					

* Identify all the applicable properties & parameters and add the required numbers of rows.

13. Technology Readiness Level (TRL) level (quantified)

(kindly refer <https://www.nasa.gov/directorates/somd/space-communications-navigation-program/technology-readiness-levels/>)

(a) TRL at Start of the project (**between 1-9**) along with detailed Justification (on the basis of feasibility study done by PI/ International status):

(b) Expected TRL at End of the project (**between 1-9**) along with detailed justification/assessment:

14. Potential Applications (point-wise):

15. Scientific Importance of the project & Relevance to DRDO (maximum 400 words):

16. Review of the state-of-art in the field including recent publications (National & International in detail with proper references):

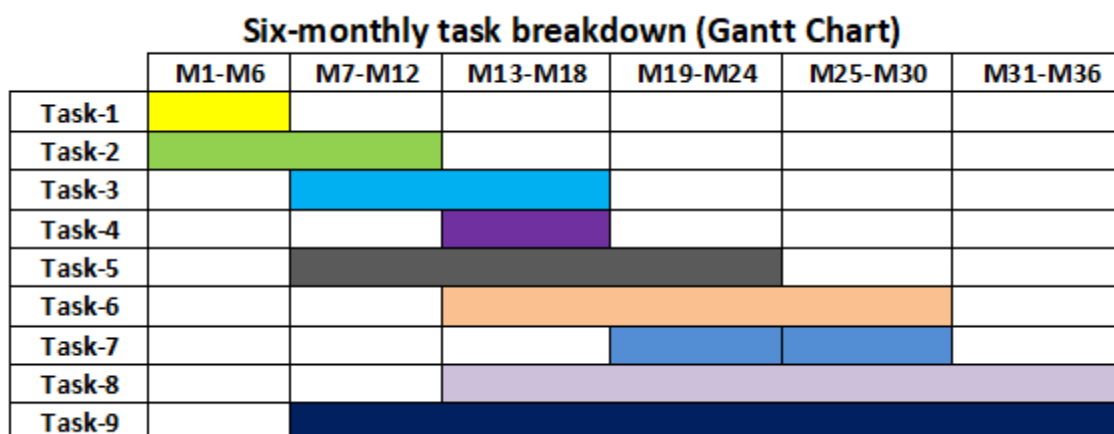
17. Feasibility Study:

(Details of preliminary studies carried out by PI in the field that indicate the feasibility of proposed research work)

18. Methods and Procedure:

(Give details of the actual experimental approach to the execution of the research plan indicating how each specific objective and deliverables are expected to be fulfilled)

19. Gantt chart (Task with time lines) for Quaterly/ bi-annual review of project progress



(Details of tasks and their six-monthly task breakdown to be included in the above format).

20. Details of six-monthly milestone/deliverables

(Intermediate deliverables and their delivery intervals must be specified)

SN	Milestone	Duration (months)	Deliverables/Description
i	Milestone-I	T ₀ +3	Literature survey report (Mandatory)
ii	Milestone-II	T ₀ +6	
iii	Milestone-III	T ₀ +12	
iv	Milestone-IV	T ₀ +18	
v	Milestone-V	T ₀ +24	
vi		T ₀ +30	
vii	Final	T ₀ +36	

* Add/delete rows as per the duration of the project proposal

21. Criticality of the proposed work/technology:

(The "criticality of a proposed technology" refers to how important or essential that new technology will be if it gets implemented)

22. Risks assessment of the project objectives and deliverables:

- Risks at initial stage of project proposal
- The proposed plan for risks mitigation

23. Future scope of proposed work:**24. Facilities available** for carrying out the proposed research work in Applicant's (a) Group, (b) Department, (c) Institution and (d) co-located DRDO lab**25. Previous work done in this or related fields.** Describe briefly any work done that is particularly pertinent to the proposal**26. Biographical sketch of Investigator(s) in brief and point wise (PI and Co-PIs)**

(Note: (a) Kindly only provide the details in the format given below in r/o **PI and all the Co-PIs** and refrain from attaching detailed CV/resume.

(b) Maximum 10 publication details relevant to the proposed work may be listed)

- Name
- Designations
- Name and Address of Institution (complete with Phone (Off & Res), Mobile, Fax & E-mail)
- Date of Birth
- Education and Experience
 - Academic Qualifications
(Begin with bachelor degree)

Degree	University	Subjects(s)	Year

- (b) Other research training and experience especially establishing research qualification in area covered by this application including previous and present position.

Institution	Topic of work done	Year

(vi) Field of major scientific interest:

(vii) Additional information relevant to the project proposal (if any):

27. Research support for other projects of the applicant from various sources (Last 10 years):

(List all the research support to PI & Co-PI)

Name of Researcher & Role in the Project	Name of Funding Agency	Title of project	Total Amount	Period of support	Completed/on-going

Section 'B'

- 28.** For Private institute, attach valid recognition certificate from UGC/ AICTE/ Govt. bodies
- 29. For life sciences project following certificate to be provided as applicable:**
- (a) Institutional ethical clearance and project approval
 - (b) Clearance from the nuclear medicine committee of BARC
 - (c) Clearance from Institutional Bio safety committee
 - (d) Projects involving DNA/ genetic engineering work should be examined and certified by the Institutional Bio-safety committee (IBSC), Lodhi road, Delhi.
- 30.** Certificate from Grantee Institution. **(Annexure-A)**
- 31.** Endorsement-cum-NoC for collaborative project from each of the Competent Authority in case of more than one institution involved in the project proposal. **(Annexure-B)**
- 32.** Consent letter from Co-PIs in case Co-PI is from other institute. **(Annexure-C)**
- 33.** Certificate of employment from Competent Authority **(Annexure-D)**
- 34.** Certificate of assurance from Competent Authority for project completion and closure document submission **(Annexure-E)**
- 35.** Reasonability Certificate in r/o Budgetary Quotations **(Annexure-F)**
- 36.** Certificate for availing/ not availing HRA **(Annexure-G)**
- 37.** Disclosure of linkages with Chinese/ Hong Kong Entities or Personnel **(Annexure-H)**
- 38.** Certificate of no duplication of equipment at Grantee Institution **(Annexure-I)**

CERTIFICATE FROM GRANTEE INSTITUTION

(to be printed on institute letter head)

1. **Name of institution submitting application**
2. **Address**
3. **Name, designation and full address of the official to whom RTGS/ cheques are to be mailed.**

The undersigned agree to abide by the terms and conditions set forth for the Grants-in-Aid scheme of the Ministry of Defence (Dte of ER&IPR, DRDO HQrs) and certify that basic necessary facilities for the proposed work are available and the same can be extended to the Investigator. **The proposal has not been submitted to or under consideration by any other funding agency, simultaneously.**

Grantee institution shall maintain an account of its incomes arising out of commercial use and any royalty income earned through the outcome of funded project shall be shared equally between DRDO and Grantee Institution.

Signature & Seal of the Principal Investigator

Signature & Seal of Executive
Authority of the institution

Name and Designation
Date

Name and Designation
Date

Signature of Co-Investigator
(from the same institute)

Official stamp
University/ Institution

Name and Designation
Date

ENDORSEMENT-CUM-NOC FOR COLLABORATIVE PROJECT

(to be printed on institute letter head)

This is to certify that.....(***Co-PI Name, designation and affiliation***).....has been approved to participate as Co-principal Investigator (Co-PI) in the project proposal titled..... in collaboration with(***PI Name designation and affiliation***).....

We hereby endorse ... ***Co-PI Name***....participation in this project proposal and confirm that***Institute name***.....fully supports the collaboration. Additionally, we state that our institute has no objection to this collaborative engagement and will facilitate any necessary resources and assistance to ensure the smooth execution of the project.

Signature & Seal of Competent Authority

CERTIFICATE FROM CO-PI
(to be printed on institute letter head)

Ifrom.....hereby acknowledge that I have given my consent for the project proposal titled..... to act as Co-principal Investigator (Co-PI).

I ensure that the project proposal will be successfully completed if sanctioned and also I abide by the rules and regulations set by funding agency.

Signature with Seal

Name of Co-PI.....

Designation.....

Institution.....

CERTIFICATE OF EMPLOYMENT

(to be printed on institute letter head)

This is to certify that***[PI Name]***.... has been employed at***[Institute Name]***.... in the capacity of***[Designation]***.... since***[Date of Joining]***....

Under normal circumstances, he/she is entitled to a remaining service tenure of***[number of years]***...., with an expected end of service on***[anticipated retirement date or end of service]***....

Signature & Seal of Competent Authority

**CERTIFICATE OF ASSURANCE FOR PROJECT COMPLETION AND CLOSURE
DOCUMENT SUBMISSION**

(to be printed on institute letter head)

This is to assure that if the project proposal titled “.....(*Project proposal title*).....” submitted by(*PI Name*).... is sanctioned, the institute will provide full support so as to complete it as per the approved timelines and objectives.

We further assure that all necessary documents for the technical and financial closure of the project, including the final reports and financial statements, will be submitted promptly after project completion within the prescribed deadlines.

We remain committed to ensuring the successful completion and timely closure of the project.

Signature & Seal of the Principal Investigator

Signature & Seal of Competent Authority

REASONABILITY CERTIFICATE

(to be printed on institute letter head)

The rates of the quotations mentioned in the project titled “.....” for the Equipment/Expendables/Contingencies etc. submitted by the vendors are reasonable.

Signature & Seal of the Principal Investigator

HOUSE RENT ALLOWANCE (HRA) CERTIFICATE

(to be printed on institute letter head)

It is hereby certified that the research staff proposed in the project proposal titled[**Proposal Title**]..... will / will not be allocated campus accommodation.

In view of the above, we respectfully request the funding agency to sanction / not sanction House Rent Allowance (HRA) for the research staff, in accordance with the applicable guidelines.

Signature & Seal of the Principal Investigator

Signature & Seal of Competent Authority

**DISCLOSURE OF LINKAGES WITH CHINESE/ HONG KONG ENTITIES OR
PERSONNEL**

(to be printed on institute letter head)

I hereby disclose the following information regarding my linkages with entities or personnel based in China or Hong Kong:

- a) Author/Co-author in National or international Journal/ Book Chapters/ Conference Proceedings
[Provide details if applicable.]
- b) Attended Conference/ workshops in China/ Hong Kong
[Provide details if applicable.]
- c) Invited as technical speakers at China/ Hong Kong
[Provide details if applicable.]
- d) Citing mutual patent exploitation
[Provide details if applicable.]
- e) Paid positions held in Chinese/ Hong Kong Academic Institutes/ R&D Centres/ Industries
[Provide details if applicable.]
- f) Projects funded by Chinese/ Hong Kong Industry/Academia
[Provide details if applicable.]
- g) Hiring of Chinese/Hong Kong personnel as project Co-PI or Staff
[Provide details if applicable.]
- h) Joint filing of IPR with Chinese/Hong Kong entities or personnel
[Provide details if applicable.]

I certify that the information provided above is true and complete to the best of my knowledge.

Signature & Seal of the Principal Investigator

CERTIFICATE OF NO DUPLICATION OF EQUIPMENT AT GRANTEE INSTITUTION
(to be printed on institute letter head)

It is hereby certified that the equipment proposed for procurement under the project proposal titled[**Proposal Title**]..... is/are currently not available within the Grantee Institution. Furthermore, the proposed equipment is/are essential for effective execution of the project objectives.

In view of the above, we respectfully request the funding agency to sanction funds for procurement of proposed equipment.

Signature & Seal of the Principal Investigator

Signature & Seal of Competent Authority