

## Science & Technology Interventions in Traditional Crafts (STITC)

### **Department of Science and Technology Science for Equity, Empowerment & Development Division**

**Sub:** Call for proposals for Programme on Science & Technology Interventions in Traditional Crafts (STITC)

The Department of Science & Technology has conducted a study to identify a set of technological innovations in the six less-intervened Crafts: **(1) Aligarh and Dindigul Lock Making, (2) Andhra (Budithi) and Odisha (Kantilo) Bell Metal Craft, (3) Firozabad Glass Craft, (4) Gaduliya Lohar Craft, (5) Kannauj Itr Making and (6) Kashmir and Rajasthan Namda Craft.** The call focuses on identifying a set of technological innovations in these relatively less-intervened crafts. The study found that all the six crafts are facing a series of problems which include: use of age-old technologies; low incomes; products not meeting the Bureau of Indian Standard (BIS) specifications, acute competition from factory made implements / Chinese products; absence of any product development / branding / promotion; serious health and safety problems; ergonomically unsound workstation; and lack of interest among the children of the artisans in learning the trade. The artisans are, therefore, ill-equipped to face up to the challenges of the changed scenario in world trade and in view of WTO regime. In view of the above, the study worked out an action plan for each selected craft for strengthening the position of the artisans in the globalised marketplace through enhancing their access to better technologies, development of new designs / products and identifying suitable technology developers and disseminators for the new technologies. All the above crafts requires development of distinct visual identity along with the GIS and handmade branding, product diversification; links as suppliers to public and private sector industry; display and publicity to brands; and improving packaging standards., the call would welcome such proposals. **Only those proposals which have direct relevance to S & T Interventions in Traditional Crafts involving the Scheduled Caste (artisans) community, creating awareness regarding branding, product diversification; links as suppliers to public and private sector industry; display and publicity to brands; and improving packaging standards will be considered.**

**Who can apply:** Academic institution, Research organization, S&T Council, Voluntary Organization, Panchayati Raj Institution (PRI), Krishi Vigyan Kendra, Other (please specify)

\* Joint proposals with academic and/or research institutions will be encouraged.

b. Collaboration if any, give details of institution(s).....

It is mandatory to tie up with potential technology developers and disseminators. The set of potential technology developers and disseminators identified for the above crafts are: NSIC Technical Services Extension Centre, Aligarh; Dindigul Lock Workers Industrial Cooperative Society, Dindigul, Indo-German Tool Room Development Centre, Faridabad , Central Manufacturing Technology Institute, Bangalore, Centre for Development of Glass Industry, Firozabad; National Institute of Design, Ahmedabad; MS University of Baroda; Fragrance and Flavour Development Centre, Kannauj; Central Institute of Medicinal and Aromatic Plants (CIMAP), Lucknow, Ramakant Harlalka of Nishant Aromas, Mumbai; Craft Development Institute, Srinagar; Kashmir Artisans Society, Srinagar; National Institute of Crafts, Jaipur; Namda, Jaipur; INTACH-JK; and Indian Innovation Foundation.

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### Indicative Project Areas:

- For **Aligarh and Dindigul Lock Making Craft**, the identified S&T interventions include Pin-cylindrical technology; small-size CNC milling machine for casting components; automatic casting machine and moulding machine; better quality PO machines, development of standard workstation and creation of material testing facilities.
- The major identified technological interventions for **Andhra (Budithi) and Odisha (Kantilo) Bell Metal Craft** include: Rasin-bonded improved furnace; improved crucible furnace with radiant panel lining; rotary furnaces, submerged plasma arc technology; bio-mass gasifier; charcoal-making technology, Mechanical hammer developed by the National Metallurgical Laboratory (NML); ergonomic design of work station; digital torch kit for flame brazing, development of fixed dyes; grinder and buffing gadget and temperature recorders.
- For **Firozabad Glass Craft**, the suggested technological interventions are: TERI's single pot open furnace: modified day tank; blowing pipe; development of recuperator; modified electrocast pot furnace; heat blankets; overhead burner for bangle joining; electronic taar and spindle machine with speed control; development of dual gas injector; ergonomic inputs for cutting and polishing; vacuum cleaners and dust collectors; and occupational health measures.
- **Gaduliya Gadi** Lohars are the nomadic metal workers' community who makes and repairs agricultural and household implements. The technological interventions suggested by the experts and craftsmen are: Travelling forge, a complete, mobile blacksmith shop stocked with furnace, tools, fuel, metal bars and equipment of the trade; NML's low-cost fuel-efficient furnace; KVIC-VNIT-furnace; NML's backyard steel making method; coke with calcium carbide; bio-mass gasifier with biogas enriched with oxygen; charcoal making technology; NML's mechanical hammer; blacksmith's workstation; bucket forge; double bellows; and personal safety gadgets.
- For **Kannauj Itr Making Craft**, Improved Field Distillation Technology developed by Central Institute of Medicinal and Aromatic Plants, Lucknow), steam distillation, solvent distillation, distillation with cohobation are the main technologies suggested by the experts. Other suggested interventions include: Promoting cultivation of raw materials among farmers, therapeutic and cosmetic uses of Itrs, digital album on natural aroma bearing materials and development of anti-air pollution fragrances.
- The interventions required in **Namda-making**, the traditional floor covering made out of coarse variety of wool, are: Electric roller for felt-making; indigenous development of little size wool carding machine/combing machine; indigenous development of drum and roller felting frame/milling machine; pencil cutting device for hand embroidery (Indian Innovation Foundation); solar-operated electric roller for felt-making hand-operated soap sprayer; moth repellent treatment technology; and shedding of loose wool fibres.

**Proposal Cost:** Not exceeding Rs 50 lakh

**Duration:** 36 Months

### Components of Grant:

- a) Research Manpower (Nomenclature and Salary as per DST guidelines)
- b) Equipment: As required for the project.
- c) Domestic travel (upto Rs.90,000/- for three years)

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d) Consumables (As required for the proposal)

e) Contingencies (upto Rs. 90,000/- for 36 month)

f) Overheads as per DST norms for public funded institution. (No overhead will be provided to private Institution)

**Call Opening Date:** 15.07.2014 (15<sup>th</sup> July, 2014)

**Call Closing Date:** 15.09.2014 (15<sup>th</sup> September, 2014)

**Proposal Submission:**

Executive Summary of the project proposal in .doc file and complete project proposal with all enclosures (1 marked original + 2 hard copies + 1 soft copy as .doc or .pdf file) should reach Smt. Sobhana Bhaskaran, Joint Director/ Scientist 'E', Science for Equity, Empowerment & Development (SEED) Division, Department of Science & Technology (DST), Technology Bhavan, New Mehrauli Road, New Delhi- 110016 by the closing date of the call. Soft copy is also to be emailed to [sobha.dst@gmail.com](mailto:sobha.dst@gmail.com)

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**FORMAT FOR SUBMISSION OF PROPOSAL  
FOR SUPPORT UNDER**

**“CALL FOR PROPOSALS FOR PROGRAMME ON SCIENCE & TECHNOLOGY  
INTERVENTIONS IN TRADITIONAL CRAFTS (STITC)”**

**CONTENTS**

<b>S. No</b>	<b>ITEMS</b>	<b>Page No(s)</b>
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V	Undertaking from the Investigator	
VI	Endorsement from The Head of Institution	
VIII	Terms and Conditions for the Grant	

**I. Proposal Summary (To be limited to two A-4 sheets)**

1.	Project Title	
2.	Project cost <i>(Amount in lakhs)</i>	
3.	Duration <i>(in months)</i>	
4.	PI Name Date of Birth	
5.	Co-PI Name Date of Birth	
6.	Organisation (s)	
7.	Status of Organisation (s)	
8.	Objectives	<i>(Precise and quantified)</i>
9.	Methodology	<i>Highlight the novelty and unique aspects of proposal</i>

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10.	Expected Scientific output/ outcome of the project	
11.	No. beneficiaries	

**11. Budget details:**

[ Research group / institution - wise, if more than one institutions are involved]

A.	Project Manpower ( Post &Nos)	
B.	List of Equipment required	

**12. Project Cost:**

Sl. No	Item Head	1 <sup>st</sup> Year	2 <sup>nd</sup> Year	3 <sup>rd</sup> Year	Total (Rs.)
<b>A</b>	<b>Non-recurring (Capital Items)</b>				
1	Permanent Equipment *				
	<i>Sub total (capital items)</i>				
<b>B</b>	<b>Recurring Items (General)</b>				
1.	Manpower				
2.	Consumables				
3.	Contingencies				
4.	Travel				
5.	Overhead				
	Sub total (General)				
<b>C</b>	<b>Total cost of the project (A+B)</b>				

\* It is essential to provide brief & adequate justification for each item of expenditure.

## II. CORE PROPOSAL

### 1. Project Title

### 2. Principal Investigator (PI)

**Name:**

**Designation:**

**Complete Address** (*with city pin code*):

**Telephone & Mobile No. :**

**E-mail:**

### 3. Co-Principal Investigator (s) (Co-PI)\*

**Name:**

**Designation:**

**Complete address** (*with city pin code*):

**Telephone & Mobile No. :**

**E-mail:**

( \* No project shall be considered in absence of details of Co- PI )

### 4. Objectives of the Proposal

(*precise and quantified: Estimated possible values , use bullet form* )

### 5. Critical Review of Status Identifying Gaps

(*include references & base line survey*)

National Status Review

### 6. Novelty / uniqueness of the Proposal ( *not more than 50 words* )

### 7. Outline of the Project (*with schematics, where possible*)

(*Define the problems and give technical details*)

### 8. Expected Scientific output/outcome of the project

(*Elaborate in 20-25 words*)

### 9. Methodology

(*Please highlight how success in the project execution will be ensured*)

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**10. Work Plan ( mention project activities and Highlight Milestones )**

*1-3 3-6 6-9 9-12 12-15 15-18 1-6 6-12 12-18 18-24 24-30 30-36*

Sl no.	Activity/Milestone	1 <sup>st</sup> year		2 <sup>nd</sup> year		3 <sup>rd</sup> year	
		1 - 6	7 - 12	13 - 18	19 - 24	25 - 30	31 - 36
A1							
A2							
-							
**	Draft completion report for review ( 3 month prior to date of completion )						

**11. Suggested Plan of action for utilization of the outcomes**

**12. Facilities & Infrastructure already available to the PI(s) at their institute for implementing the project.**

S.No	Equipment Name	For which purpose it would be utilised in current project

**III. BUDGET ESTIMATES**

(All Amount in Lakh )

S. No	Item Head	1 <sup>st</sup> Year	2 <sup>nd</sup> Year	3 <sup>rd</sup> Year	Total (Rs.)
<b>A</b>	<b>Non-recurring (Capital Items)</b>				
1	Permanent Equipment				
	<i>Sub total (capital items)</i>				
<b>B</b>	<b>Recurring Items (General)</b>				
1.	Manpower				
2.	Consumables				
3.	Contingencies				
4.	Travel				
5.	Overhead				
	<i>Sub total (General)</i>				
<b>C</b>	<b>Total cost of the project (A+B)</b>				

**It is essential to provide brief & adequate justification for each item of expenditure.**

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**Organization details:**

- a. Designation of the financial authority in organization:
- b. Whether organization registered with Govt. of India Central Plan Scheme Monitoring System\* (CPSMS): Yes/ No
- c. \*(refer website:  
<http://cpsms.nic.in/Users/LoginDetails/Login.aspx?ReturnUrl=%2fdefault.aspx>)
- d. If not, please get is registered as soon possible at CPSMS website which is mandatory. If yes, inform Agency code
- e. registered at CPSMS website:

**IV. Proforma for Bio-Data of Principal Investigator (PI) and Co-Principal Investigator (Co PI)**

1. Name
2. Gender
3. Date of Birth
4. E-mail ID
5. Qualifications

S. No.	Degree	Institution	Year	Division/Class

6. Employment Experience

S. No.	Position & Organisation	Nature of Job	Period

7. **List of Publications** (*For last 5 years only*)  
(*Only journal publications with impact factor*)



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**8 Sponsored Projects**

<b>S. No</b>	<b>Title</b>	<b>Sponsoring and Concerned</b>	<b>Agency Officer</b>	<b>Period</b>	<b>Amount</b>	<b>Achievements</b>

Date

(Signature of PI)

**V. UNDERTAKING FROM THE INVESTIGATOR(S)**

**Project Title:**

I/We have carefully read the terms and conditions of the Programme on Science & Technology Interventions in Traditional Crafts (STITC) and the call for proposals and I/We agree to abide by them.

1. I/We have not submitted this or a similar Project proposal elsewhere for financial support.
2. I/We have explored and ensured that the equipment and the basic facilities described in the Proposal, will actually be available as and when required for the purpose of the Project. I/We shall not request financial support under this project, for procurement of these items.
3. I/We undertake that spare or idle capacity of the permanent equipment procured under the project will be made available to other legitimate users from parent and other organizations.
4. I/We have enclosed the following :
  - a Endorsement from the Head of the Institution  
(*on letter head*)
  - b Complete Project Proposal with all enclosures  
(*1 marked 'original' + 3 hard copies + 1 soft copy as .doc file*)

Name and signature of the Investigators

Date

Place

**VI. ENDORSEMENT FROM THE HEAD OF THE INTITUTION**

*(To be typed on the letter-head of the organization)*

**Project Title**

1. Certified that the organization welcomes the participation of Dr/Mr/Mrs .....as the PI and Dr/Mr/Mrs.....as the Co-PI for the project and that in the unforeseen and legitimate event of discontinuation by the PI, the Co-PI will assume full responsibility for completion of the project. Information to this effect, endorsed by me, will be promptly sent to the DST
2. Certified that the equipment, other basic facilities and other administrative facilities as per the terms and conditions of the award of the Project, will be extended to the investigator(s) throughout the duration of the project
3. The Organization shall ensure that financial and purchase procedures are followed as per the prevailing norms of the organization, within the allocated budget.
4. The Organisation shall provide timely the Statement of Expenditure and the Utilisation Certificate of the grant as required by the DST in the prescribed format.
5. **The grant for the proposal, if approved , the funds shall be transferred to following organization account :**

1	Name of A/c holder (as per Bank record )	
2	Bank Account No.	
3	Bank Branch Name & Address	
4	MICR Code	
5	IFSC Code	
6	E-mail (Agency /PI )	
7	Mobile No. (Agency/PI )	
8	Unique agency code*	

\* **Refer website :** <http://website.informer.com/visit?domain=cpsms.nic.in>

**(Head of the Institute)**  
**Seal/Stamp**

**Date**  
**Place**

**Department of Science & Technology**

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**Terms & Conditions of the Grant**

1. Approval of the Proposal and the grant released for it is for the specific Project sanctioned and the released grant should be exclusively spent on the Project within the stipulated period. The Institution may use funds obtained from any other Organisation with the concurrence of DST, for the Project. **Any un-spent balance out of the amount sanctioned must be surrendered to the Government of India through a crossed Cheque/ Demand Draft drawn in favour of Drawing & Disbursing Officer, DST, New Delhi.**
2. For permanent, semi-permanent assets acquired solely or mainly out of the Project grant, an audited record in the form of a register shall be maintained by the Grantee Organisation. The term “Assets” include movable property of capital nature where the value exceeds Rs 50,000/-. The Organisation is required to send to the Department of Science & Technology a list of Assets acquired from the grant. The grant shall not be utilized for construction of any building unless a specific provision is made for that purpose. Full infrastructural facilities by way of accommodation, water, electricity, communication, etc. for smooth implementation of the Project shall be provided by the Organisation.
3. All the Assets acquired from the grant will be the property of the Government of India and should not be disposed off or encumbered or utilized for purposes other than those for which the grant had been sanctioned, without the prior sanction of DST.
4. At the conclusion/ termination of the Project, the Government of India will be free to sell or otherwise dispose off the Assets which are the property of the Government. The Organisation shall render to the Government necessary facilities for arranging the sale of these Assets. The Government of India has the discretion to gift the Assets to the Organisation or transfer them to any other Organisation if it is considered appropriate.
5. The Organisation / PI will furnish Six-Monthly Progress Report (*2 copies*) of the work on the Project on half-yearly basis from date of start. The first half-year period shall be rounded off to the last date of the sixth month. The subsequent periods of six months shall begin from the first day of the following calendar month. In addition, DST may designate a Scientist/ Specialist or an Expert Panel to visit the Organisation periodically to review the progress of the work being carried out and to suggest suitable measures to ensure realisation of the objectives of the Project. During the implementation of the Project, the Organisation will provide all facilities to the visiting scientist/ specialist or the Expert Panel by way of accommodation, etc. at the time of their visit. On completion of the Project, final consolidated “project completion report “ on the work done on the project will be prepared after incorporating the suggestions ,if any, from the reviewers of the project and five copies of the same will be submitted to Project Completion Report as per the DST format on the work done on the Project should be sent to DST.

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6. At the time of seeking further installment of the grant, the Organisation/ PI has to furnish the following documents:

- a) Utilisation Certificate (UC) and Statement of Expenditure (SE) for the previous financial year (in original or copy if sent earlier);
- b) An authenticated Statement of Expenditure (SE) including committed Expenditure for the Project **till the previous month.**
- c) Progress report ,if not sent earlier.

7. Request for specific approval of DST to **carry forward** the unutilised grant to the next financial year for utilisation for the same Project, should be sent along with UC and SE, after completion of the financial year.

8. **The Comptroller & Auditor General of India, at his discretion, shall have the right of access to the books and accounts of the Organisation maintained in respect of the grant received from the Government of India.**

9. The Organisation will maintain separate audited accounts for the Project and would keep the whole of the grant in a bank account earning interest, the interest thus earned should be reported to DST and should be reflected in the Statement of Expenditure. The interest thus earned will be treated as a credit to the Organisation to be adjusted towards further installment of the grant.

10. The Organisation will neither entrust the implementation of the work (except the out-sourced part as approved) for which the grant has been sanctioned to any other Organisation nor will it divert the grant receipts to any other Organisation as assistance. In case the Organisation is not in a position to implement or complete the Project, it should, forthwith, refund to DST the entire grant received by it or the balance grant remaining with it.

11. All the personnel including Research personnel appointed under the Project, for the full/ part duration of the Project, are to be treated as project personnel on contract to organization and will be governed by the administrative rules/ service conditions (for leave, TA/DA, etc.) of the implementing institute.. They are not to be treated as employees of the Government of India and DST will have no liability, whatsoever, for the project personnel after the completion of the Project duration.

12. For expeditious implementation of the research Project, PI will take the assistance of the Organisation in the process of selection and appointment of staff and payment to them. Pay Scale and emoluments for the posts not covered under DST's OM are governed by the norms prevalent in the implementing Organisation or as decided in consultation with DST.

13. **DST reserves the right to terminate the Project at any stage if it is convinced that the grant has not been properly utilised or sufficient progress has not been reported under the project or sufficient effort have not been devoted.**

14. **The Project becomes operative with immediate or within a maximum of 1month from the date on which the funds is received by the implementing Organisation. This date should be immediately intimated by the Grantee authorities/ Principal Investigator to DST.**

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15. The grantee organization shall associate a Co-PI with the project ,if not already a part of the project team. The Co-PI shall function as PI in the absence of PI and should be totally in knowledge of the activities of the project to avoid loss to the project , in case PI leaves the organization. If PI to whom a grant for a Project has been sanctioned wishes to leave the Grantee Organization where the Project is sanctioned , Grantee Organization / PI will inform DST of the same and in consultation with DST, evolve steps to ensure successful completion of the Project through Co-PI before relieving the PI or appoint another equivalent position officer as PI.

16. If the result is in the form of a survey report/ product performance evaluation or other such activities which have commercial implications, the grantee organization will not publish the results without specific written approval of this Ministry.

17. In case of any dispute the decision of Secretary, Ministry of Science and Technology shall be final.