

TECHNOLOGY SYSTEMS DEVELOPMENT (TSD) PROGRAMME

GUIDELINES FOR SUBMISSION OF PROPOSALS

These guidelines provide assistance for the preparation and submission of Project Proposals for support under the Technology Systems Development (TSD) Programme of the Department of Science and Technology (DST).

I Introduction

Technology Systems Development (TSD) Programme supports activities aimed at developing and integrating technologies to evolve technology systems both in the advanced/emerging areas and in traditional sectors/areas. Under the Programme, feasibility of fresh ideas/ concepts is assessed for their potential conversion into useful technology/product. Applications of R&D for socio-economic benefits is consciously promoted under this programme.

II Objectives

The primary objective of the Programme is to facilitate and support development of products or techniques/technology aimed at specific end use. The Programme stresses on clearly identifying the needs for development of the technology so that the developmental effort could be useful to the target beneficiary. It envisages active user involvement and association in the development effort. The intention is that the products/technologies developed under the Programme become useful for the benefit of the people at large. The specific objectives of the Programme are to

- develop and integrate technologies following a holistic approach in identified areas;
- promote application of modern/advanced technologies to socio-economic problem solving;
- promote modernization of traditional technologies, tools and skills;
- facilitate enhancing quality and performance of the traditional/non-traditional items;
- encourage developments in application of R&D activities; and
- promote activities aimed at improving technology, technique, material, methods and other appropriate activities conducive for development of technology status in identified areas.

III Technology Qualifiers' Criteria

The Proposal to qualify consideration under the TSD Programme should meet one or more of the following criteria. The technology should be

- based on established R&D outcome/ results
- conforming to national/ international specifications
- potentially useful, demand driven and required by other agencies and users
- a development of technology for multiple applications
- an adaptation of existing technology for its applications other than originally intended
- meeting a critical national need (present/ future) and strengthening technological capabilities for the same
- an application of advanced science and technology with a promise of giving competitive solutions

IV Spectrum of Activities Qualified for Support

Under the Programme, primarily those Projects/ Activities are supported for which “proof of concept” has already been established. The Proposals aimed at applied R&D are encouraged. Proposals involving basic/ exploratory research are not considered under this Programme. Specifically, following activities are supported under the Programme:

- Applied Research and Analysis
- Development and Engineering (D&E)
- Application oriented Research, Design and Development (RD&D) having Production Potential
- Prototype Development of Product/ System/ Services/ Software Development (new, upgradation of the existing, field trials and demonstration)
- Process Development (new, up-scaling of the existing, field trials and demonstration)
- Data Generation and Feasibility Study
- Provision for Production Facility on a limited scale for a specific Technology Segment to enable the Technology to become competitive
- Sophisticated Equipment and Technology based Job-Shops for cost-effective Fabrication Techniques
- Scientific Knowledge leading to future Technology Development
- Technological Capability Development

V Who can Submit ?

- Project Proposals can be submitted for financial support by scientists/engineers/technologists working in academic institutions/registered societies/R&D institutions/laboratories having adequate infrastructure/facilities to carry out technology development work. The Programme encourages multi-disciplinary Proposals envisaging network/collaboration of various Organisations having diverse expertise and facilities for synergistic implementation of the Projects. Participation of industry is important.
- Project Proposals are also welcome from Industry having DSIR recognized R&D Laboratories either alone or in collaboration with academic/R&D Institutions.

VI Niche Areas

Some of the typical areas in which Proposals can be submitted are listed below:

- Glass and Ceramics Technology Up-gradation.
- Molecular Electronics/Conducting Polymer and Biosensors.
- Water Purification and Rural Micro-Water Management
- Waste Utilization and Management
- Public Health and Safety
- Surface Engineering Techniques for Rejuvenation of Traditional Crafts.
- Laser/ Plasmas/ Microwave Technology
- Decentralized Energy Generation and Harvesting
- Alternate Fuels, Fuel Conservation, Efficient Utilization of Fuels
- ICT- driven Technologies
- Innovative Civil Infrastructure Technologies
- Platform Technologies for a Range of Applications

The above list is not exhaustive and Proposals in other areas are equally welcome if the activity is perceived to be useful by DST for technology advancement in the country and is not being taken up under any other major R&D programme of the Government of India.

VII Forms of DST Grants

For Institutions: Project staff salaries, equipment, supplies and consumables, contingency expenditure, patent filing charges, outsourcing charges, internal travel, fabrication costs, testing charges, overheads, etc.

For Industry: Only cost of consumables upto 50%.

For Institution/Industry Joint Programmes: Support to the Industry upto 50% of the cost of consumables.

The IPR will be under the purview of DST, Institution and Industry. If, however, the Industry returns the amount received as grant from DST, the IPR, at the discretion of DST, shall be appropriately assigned to the Institution and the Industry.

VIII Mechanism of Evaluation, Implementation and Monitoring

The Technology Qualifiers' Criteria and the Niche Areas requiring intervention are identified by DST in consultation with Programme Advisory Committee (PAC). The Coordinators identified by PAC are actively involved in mobilizing the Projects by identifying the required capabilities and pooling the expertise of individuals and infrastructure of Organisations. The Project Proposals are also received directly, which are screened with a view to assess their suitability for consideration under the Programme mandate. After initial scrutiny, both directly received as well as mobilized Proposals are peer reviewed by experts and the Investigators are advised to revise the Proposal, if needed. The Proposals along with the Reviewers' Comments are placed before the Expert Advisory Committees (EAC) of the respective areas for their recommendation. Principal Investigators are called for presentation before EAC, if required. The recommended Proposals are processed for financial concurrence and administrative approval as per DST procedure.

The Projects are periodically monitored usually at site by the Project Review Committees (PRC) and/ or Group Monitoring Committees (at a common location at various stages of the progress of Projects). Close association between PI and PRC is ensured to achieve the Project Objectives. PI is advised to take necessary action on the recommendations of the Reviewers. Project Completion Reports (PCR) are sent to experts for comments. A presentation is also required to be made by PI on completion of the Project for final assessment and identification of the future course of action on the Project.

IX Submission of Proposals

- (i) The Project Proposals for consideration under the Programme can be submitted anytime throughout the year.
- (ii) The Investigators are required to submit 15 copies of the complete Proposal printed on both sides of A4 size paper, with an electronic copy of the Proposal on a CD in MS Word.
- (iii) The Proposal should be prepared and submitted strictly according to the formats prescribed in this Document.
- (iv) The duration of the Project should preferably be for a maximum period of 3 years. Projects for development of integrated systems requiring development of various sub-assemblies at multiple Organisations may be of longer duration. They should, however,

- be broken up in different phases in such a way that there are clearly defined deliverables at the end of each phase (of not greater than three years)
- (v) Copies of the Proposal and other required documents must be sent in one lot through proper channel to Dr. Rajeev Sharma, Scientist-D and Member Secretary (Technology Systems Development Programme), Department of Science & Technology, Technology Bhavan, New Mehrauli Road, New Delhi-110016.
 - (vi) DST may be contacted if the acknowledgement letter intimating the registration number of the Project is not received within one month from the date of dispatch of the Proposal.
 - (vii) It may be ensured that the registration number/ letter number (given by DST) and title of the Proposal are quoted in all subsequent communications.
 - (viii) It is expected that PI will remain in the service of the Organisation throughout the duration of the Project.

X General Requirements

- (i) The coordinating Organisation implementing the Project is required to take all the financial and administrative responsibilities for the Project.
- (ii) In case of a multi-organisational Project, PI has to obtain formal consent from the collaborating organisations/scientists. Formal MoU/ Agreement may be worked out detailing the obligations and arrangements stated in the Proposal and got approved by DST subsequent to the sanctioning of the Project, before the funds are released by DST.
- (iii) International travel is not normally permissible under the Project.
- (iv) The Project personnel recruited for the Project are temporary and they should be paid according to DST norms.
- (v) It is the policy of DST that the equipment procured under the Project be optimally utilized. The Principal Investigator shall permit the use of any spare or idle capacity of the equipment to legitimate users from the parent and other Organisations.