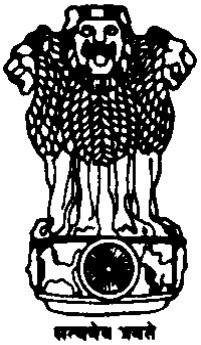
TECHNOLOGY DEVELOPMENT AND DEMONSTRATION PROGRAMME

FOR DEVELOPMENT AND DEMONSTRATION OF INNOVATIVE PRODUCT AND PROCESS TECHNOLOGIES

GUIDELINES
AND
APPLICATION FORMAT



DEPARTMENT OF SCIENTIFIC AND INDUSTRIAL RESEARCH
MINISTRY OF SCIENCE & TECHNOLOGY
GOVERNMENT OF INDIA
http://www.dsir.gov.in

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TECHNOLOGY DEVELOPMENT AND DEMONSTRATION PROGRAMME (TDDP)

GUIDELINES

The Department of Scientific & Industrial Research (DSIR) proposes to strengthen the interface between industry, R&D establishments and academic institutions and provide catalytic support for development and demonstration of innovative product and process technologies, traversing the journey from proof of concept or laboratory stage to pilot stage, rendering them fit for commercialization.

1. OBJECTIVES

(a) Development and demonstration of innovative need-based technologies for making industry competitive, and

(b) Strengthening the interface between industry, R&D establishments and academic institutions

2. SECTORS OF INTEREST

Any sector leading to industrially useful applications.

3. PROJECT PROPOSALS

The technology development projects should aim at development of a new product or a process (including development of process equipment) with attractive market potential. The projects should result in significant benefits in terms of raising the technological level of the industry concerned, high turnover, energy and material savings/recovery, export sales etc.

Nature of Proposals supported –

(a) Development of a new or improved product resulting in prototype development and ending with demonstration in commercial environment.

(b) Development of a new or improved process resulting in establishment of process know-how, development of process equipment and demonstration of yield, efficacy etc in a pilot plant.

(c) Absorption and up-gradation of imported technology.

(d) Priority technology development projects of PSUs in consultation with and co-financing from economic ministries. Under this, consortium projects for development of technologies of common interests for group of industries or associations to be undertaken by industrial units, national laboratories, user industries in important focused areas such as Electronics and Communications, Railways, Drugs, Chemicals & Fertilizers, etc. shall be supported.

(e) Development & demonstration of technologies for common use by cluster of industries.

(f) Development & demonstration of technologies for government's flagship and mission mode projects.

So far, around 200 projects involving industrial units and scientific establishments, both in public and private sector, have been supported by the Department involving DSIRs share of about Rs. 100 crore in the total project costs of around Rs. 250 crore. These projects cover products and processes in various important industries such as, electrical, electronics, semiconductors, telecommunications, embedded software, instrumentation, mechanical engineering, metallurgy, earth moving and industrial machinery, chemicals, drugs, pharmaceuticals and explosives.

Activities supported -

The partial financial support by DSIR primarily covers prototype development, cost of pilot plant, cost of process equipment development, test and evaluation of products, user trials etc. Bulk of the financial support to the projects has to be from industry's resources. The financial support from DSIR is mainly to meet part of the developmental expenditures for:

a. Personnel costs (specialists employed, part-time/full–time/contract basis, exclusively for specified activities);

b. Consultancy (cost of indigenous consultancy and equivalent services used exclusively for the research activity, including research, technical knowledge, patents, etc);

c. Patenting;

d. Running costs (such as expenditure towards raw materials, consumables, hardware/ software tools, components/sub-assemblies for prototype, equipment for pilot plant etc. incurred directly as a result of proposed research activity)

e. Testing, trials & certification.

f. Support is available only for the innovative element in the project.

4. ELIGIBILITY CRITERIA FOR APPLICANTS

- A registered company more than three years old, having a healthy financial track record;
- Consortium of registered companies (as above) with any scientific establishment. However, industry will be the focal point, primarily responsible for the project;
- Preference to companies whose in-house R&D units are recognized by DSIR. Such companies are eligible for customs duty and excise duty exemption on goods imported for R&D.
- Companies are required to enter into an agreement before disbursement of funds.

The proposals can be made by industrial units, either on their own or jointly with research/ educational institutions. If the projects involve collaboration with/assistance from national research/educational institutions, international bodies/companies, individuals, the proposals

should clearly highlight the scope of work and responsibilities of each entity participating in the project. MoUs between the concerned entities, towards this should be submitted.

5. APPLICATION PROCEDURE

The application formats for making the project proposals –

for new product development is given at Annexure-I;

for new process development is given at Annexure –II.

Proposals (in 5 hard copies and a soft copy in USB device) on the above lines are invited from innovative and technologically oriented industrial firms with a good financial track record. These proposals should be forwarded by the Chief Executive/Managing Director of the industrial units or head of research/educational institutions to:

Shri R. R. Abhyankar
Scientist 'G' and Head (TPDU)
Department of Scientific & Industrial Research
Technology Bhavan, New Mehrauli Road, New Delhi-11O 016.
Ph: 011-2686 3805, Fax: 011-2696 0629
Email: *rra@nic.in*

ANNEXURE-I

APPLICATION FORMAT FOR PROJECT PROPOSAL SEEKING PARTIAL FINANCIAL SUPPORT FOR NEW PRODUCT DEVELOPMENT

(Please see Explanatory Notes for Application Formulation)

Project Title:

Part A – General

A1. Company Background

A2. Technology Background

A3. Personnel Background

Part B – Summary

B1. Executive summary of the proposal

Part C - Details

C1. Technical

C2. Commercial

C3. Financial with justification

Sl. No.	Expenditure Heads	Total Estimated Cost
1.	Design/Engineering/Consultancy from external agencies (their background and work assigned to them are to be given along with cost estimate)	
2.	Prototype(s) (Sub-assemblies/ components/ parts/ consumables, software, assembly/integration).	
3.	Mechanical Tools, Jigs, Fixtures, Dies, Software tools etc required to develop prototypes	
4.	Manpower costs of industry personnel (including their travel costs)	
5.	Specialized test equipment required to test prototypes.	
3.	Testing/ endurance trials/ national and international certification	

C4. Existing facilities that will be utilized.

C5. Action Plan

C6. Summary of inputs

C7. Summary of output

Signature of Chief Executive/ Managing Director

ANNEXURE-II

APPLICATION FORMAT FOR PROJECT PROPOSAL SEEKING PARTIAL FINANCIAL SUPPORT FOR NEW PROCESS DEVELOPMENT

(Please see Explanatory Notes for Application Formulation)

Project Title:

Part A – General

A1. Company Background

A2. Technology Background

A3. Personal Background

Part B – Summary

B1. Executive summary of the proposal

Part C - Details

C1. Technical

C2. Commercial

C3. Financial with justification

Sl. No.	Expenditure Heads	Total Estimated Cost
1.	Consultancy from external agencies (their background and work assigned to them are to be given along with cost estimate)	
2.	Pilot plant equipment (procured/ developed)	
3.	Chemicals and raw materials consumed	
4.	Manpower costs of industry personnel (including their travel costs)	
5.	Specialized test equipment for pilot plant.	
3.	Test trials	

C4. Existing facilities that will be utilized.

C5. Action Plan

C6. Summary of inputs

C7. Summary of output

Signature of Chief Executive/ Managing Director

EXPLANATORY NOTES FOR APPLICATION FORMULATION

A1. Name, address of the firm with brief details of corporate history, R&D achievements, plans and projections for the future, whether in-house R & D unit of the firm is recognized by DSIR.

A2. Details of technology, historical origin, patent position, technology trends, technology forecasting, standards/specifications, knowledge gaps, critical elements of technology, enabling technologies, competitors profile, users profile.

A3. Key R&D personnel and their bio-data, project champion, researchers working exclusively on this project, their past track record, recent major achievements of in-house R & D unit of the industrial firm.

B1. This is to be submitted as annexure as per the format enclosed. The coverage must be comprehensive, as this executive summary will be circulated to experts for their comments. It must cover, in brief, all the details of the proposal, in not more than 5 pages.

C1. Clearly defined objectives, innovative content or technology niche in the project, results of literature survey and patent search, work carried out at proof of concept level, future technological challenges and plan of action to overcome the technology barriers, number of prototypes to be developed, test protocols to be followed etc. In case of process innovation, justification for the pilot plant to be given.

C2. Market survey report, export possibilities and global competition. For process innovation, Minimum Economic Scale to be worked out.

C3. Cost estimates to be given and these need to be supported by backup offers/ estimation. Cost estimates are required to be drawn realistically and full justification is to be given.

C4. Applicants to desist from attaching list of production and testing equipment. Only those facilities that are relevant and critical need to be highlighted. Establishment of test facilities is not normally supported, however, if the applicant desires to procure/develop specific and specialized test equipment for testing the prototype, a request for partial financial support can be made with justification.

C5. Advance project planning techniques like Work Breakdown Structure to be used for project planning. The activities must be broken down into tasks, which can be monitored regularly. Against each task, resources required to complete the tasks are to be identified. This activity-resource to be submitted as annexure.

C6. Technical, financial, managerial.

C7. Deliverables-physical, commercial turnover for five years, networking with resource experts, enhancement of capabilities, additional facilities, IPR generation, market share improvement, cost reduction, reduction in energy consumption/emissions, R&D people growth, foreign exchange earnings.

FREQUENTLY ANSWERED QUESTIONS (FAQ)

1. Who can apply?

   All Indian industries (Private Ltd. and Public Ltd. companies) can apply for support under TDDP. An Indian company is defined as one in which more than 51% of the ownership is held by Indian Citizens (including NRIs).

2. Is institute linkage essential?

   Not essential. Industrial units can take up projects all by themselves. However, DSIR encourages industries to network with research institutions wherever capabilities and facilities exist. If it is a joint project of industry with an institute, then the project proposal has to be signed by both the parties. If industry is seeking only limited services and consultancy from the labs/institutes, then proposal should include a letter or offer from the Director of the institute or his authorized signatory indicating the scope of services and related payments. Similarly if the industry is proposing to up-scale lab/bench level technology of national laboratories/research institutions then the related agreements already entered between the industry lab for development/utilization of that lab level technology will need to be enclosed in the proposal.

3. Are there any priority sectors/areas?

   TDDP can consider projects for technology development and demonstration in any sector leading to industrially useful applications.

4. What kinds of projects proposals are not supported?

   Projects proposals of following nature are generally not supported under TDDP:

   (a) Lab scale work at Institutions
   (b) Bench scale work at Industry
   (c) Technology import / commercialization
   (d) Minor improvements in Product / Process
   (e) Projects involving open ended research
   (f) Clinical Trials
   (g) Study oriented research work

5. What activities are eligible for support?

   The support is towards research / design / development / engineering, software development, indigenous consultancy, prototype/pilot plant, testing and evaluation/certification, users trials / field trials, patenting etc essential for R&D in New Product / Process Development. Only activities taken up after release of administrative sanction are eligible for DSIR support.

6. What activities are not eligible for support?

Costs of following activities are not supported under TDDP:

(a) Pre-project activities (including preliminary literature survey and patent search)
(b) Permanent employee costs of industry
(c) Travel costs of industry personal
(d) Industry overheads
(e) Contingency provisions
(f) Payments for technology received from commercial organizations
(g) Infrastructure facilities like land, building
(h) Production equipment
(i) Standard quality control equipment

7. What is the definition of 'project'?

The projects under TDDP generally cover the activities taken up after successful completion of a lab scale/bench scale work either by industry and/or by lab/institution till completion of technology development and demonstration of the product(s) developed as commercially producible prototypes/or the process(es) at a pilot/demonstration scale before further commercialization of that technology. The project can be (a) for design and development of engineered prototypes, (b) for design, development and demonstration of pilot plant level process technologies for process development products such as in chemicals, fertilizers, metallurgical industry etc.

8. How much support one can expect?

The support would be generally limited to 50% of the project cost. Higher quantum of support can be considered, if supported by proper justification.

9. How my proposal will be evaluated?

The proposal will be initially screened by the Department. Thereafter, proposal will be taken up for consideration by a high level Technical Advisory Committee (TAC) of TDDP. Any project proposal whose project outlay exceeds Rs. 25 crore (or as per existing govt. guidelines) will subsequently be taken up for approval by Standing Finance Committee (SFC)/ Expenditure Finance Committee (EFC), chaired by Secretary, DSIR, if recommended by TAC.

10. Does one get an opportunity to explain his proposal ?

The proposal should be self-explanatory giving all requisite details. However, after initial screening by the Department, if there is a need for further clarification/discussions, the applicant may be asked to provide these details and if required, will be given an opportunity to present his views, when the proposal is considered by the Technical Advisory Committee/Standing Finance Committee/ Expenditure Finance Committee.

11. Is there any last date for submission of the proposal?

Project proposals can be submitted throughout the year. However, proposals submitted by the last date of the latest advertisement shall be considered in the ensuing TAC.

12. How will the funds be released?

Subsequent to TAC recommendation, the first installment of funds will be released after administrative and financial approval of the competent authority in the department. The balance funds (except for last installment) will be released in installments based on the projected requirements for the project. Towards this, the company has to provide a six monthly schedule for funds requirement indicating their share as well as DSIR share sought. Last installment of grant will be released after project completion, after receipt of Project Completion Report, Audited Statement of Expenditure and Audited Utilization Certificate.

13. Do we have to give a bank guarantee?

DSIR support is given as grants-in-aid and hence there is generally no requirement for bank guarantee/ collateral guarantee etc.

14. What is 'successful commercialization' of the project?

A project will be deemed to have been successfully commercialized on the date when the industry undertakes first commercial sale of the product in their existing plant or a new producing plant installed on the basis of result of the TDDP project.

15. Do we have to pay royalty/lump sum?

Yes. Company will be required to pay lump sum royalties in five annual installments amounting to 1.3 times the amount received, after start of commercial sale/commercial production of the product developed with TDDP support. The lump sum royalty will be collected by NRDC on behalf of DSIR.

16. What is NRDC?

National Research Development Corporation is a Public Sector Enterprise of Government of India under DSIR, with expertise in transfer of technology.

17. Who owns the I.P.R.?

The firm and the collaborating agencies will own the I.P.R (as per the agreement they enter into). They will also indemnify the Government against any possible infringement of IPR.

18. Will the firm need to sell its technology to any other party?

The company will have the first right to utilize and commercialize the technology developed. In case the company does not commercialize the technology in a period of 4

years after completion of the project or does not exercise its option to commercialize technology within one year of completion of the project, only in such a case the technology will need to be assigned to NRDC for third party licensing. Revenues from such licensing will be shared with the executing agency as per the actual financial contributions in the project or as specific to the concerned project. In case of technologies, which are jointly developed/scaled up based on earlier lab/bench scale work of national lab, obligation and terms & conditions of earlier agreement, MOU will be taken into account.

19. What about Confidentiality?

All concerned in the project will ensure confidentiality as required.

20. Agreements/ Reports to be submitted?

Companies supported under TDDP will be required to sign an agreement with DSIR before sanctioning of the project. They will also be required to submit half yearly brief progress reports and audited statement of accounts. Brief progress reports and projection will need to be submitted to the Project Review Committee members 10 days before the meeting. At the end of the project, a Project Completion Report will have to be submitted.

21. Is revision, pull-out possible?

There should not be any need for revision, while the project is underway. Revised proposal will be considered as a new proposal. Similarly, the company is expected to honour its commitments and complete the project as planned. If the company abandons the project, the Department will take serious note of it and the company will be required to return the money received along with 12% simple interest.

22. What additional benefits can we expect?

Customs Duty exemption is recommended for companies whose in-house R&D units are recognized by DSIR, for imported items coming under the project scope as per existing rules.

23. When do we shake-off hands?

Duration of the agreement is around 12 years to cover various commitments in the agreement such as payment of royalties, third party licensing, if any, etc.

24. Can we take financial support from any other agency/Govt. departments/bank?

Yes. All this information needs to be given in project proposal application.

CHECKLIST FOR TDDP PROJECT APPLICATIONS

Before submitting the application, please ensure that the following supporting documents are attached to the application form

1. Articles of Association

2. Annual reports for the last three years

3. DSIR in-house R&D recognition letter

4. Statement of R&D expenditure for the past three years, if it is not specifically recorded in the annual reports.

5. Board resolution/authorization committing the firm to this technology development project and approving the disbursement of funds for carrying out the project.

6. Results of market survey for the proposed product.

7. Results of patent search.

8. Targeted specifications for the product.

9. Comparison of the targeted specifications with the market leader.

10. Test protocols

11. Cost back up with relevant offers/estimation and quotations from vendors

12. Activity-resource plan

13. Source of funds for the firm (other than DSIR support)

14. List of existing facilities that will be utilized for this project

15. Nature and commitment of potential users to test the product and facilitate commercialization of the technology.

16. MoUs between the concerned entities, in case of consortium projects of industries and scientific establishments.

FORMAT FOR BOARD RESOLUTION/AUTHORIZATION

Extract of the Resolution passed at the meeting of Board of Directors of the Company held on *day, date* at *place*.

Resolved that the following items are approved by the Board of Directors of the Company.

1. *Name of Company* is hereby authorized to prepare the project proposal on *Title of the project* and to make an application seeking financial help from Department of Scientific and Industrial Research, Government of India under Technology Development and Demonstration Programme.

2. *Name of authorized personnel* is/are hereby authorized to sign papers on behalf of *Name of Company*.*

3. *Name of Company* hereby commits to implement the project and provide all necessary resources including financials, over and above the DSIR support, to complete the project in the projected duration.

//Certified True Copy//

For *Name of Company*

Chairman & Managing Director

Note

1. * Preferably, CMD may sign the agreement.

2. The board resolution must bear the company's Common Seal

FORMAT FOR EXECUTIVE SUMMARY

1. Project Title

2. Name of the Applicants

   - Company's brief history
   - Company's financial track record for last three years

Sr. No.	Particulars	FY---	FY----	FY---
1	Reserves and Surplus			
2	Secured Loan			
3	Unsecured Loan			
4	Net current Assets			
5	Sales Turn Over			
6	Total Income			
7	Total Expenditure			
8	Total R&D Expenditure (Capital+Recurring)			
9	PAT			
10	Cumulative Profit/Loss carried to BS			

   - Brief details of Collaborating institution / agency

3. Objectives

4. Proof of Concept work already done

5. Up-scaling required to pre-commercialisation, clearly stating the innovative content

6. Project Team and their credentials

7. Duration

8. Work Plan

9. Budget and Demand from DSIR

10. Key Deliverables

11. Commercialisation Plan

FORMAT FOR SELF EVALUATION OF PROPOSAL

Technolgy Development and Demonstration Programme

Project Title:

Company:

Evaluated by:

End Objective of Evaluation: Successful Completion of Project and Commercialisation of Technology

Project to be Examined with respect to its: Innovative Content, Objectives, Project Team, Work Plan, Financials and Commercialisation

Criteria is formulated in such a way (generally in query form) that it is possible to assess on a 5-point scale [5 – Excellent; 4 – Very Good; 3 – Good; 2 – Average; 1 – Poor]

No.	Criteria Weightage given in **[bracket]**	Qualitative Comments	Assessment [1-5]
1	Innovative Content		
a.	Innovative content in the project or the project's potential to lead to patents, design registration etc. (e.g. patents filed, design registration etc. would yield a higher rating) **[10%]**		
b.	Probability that development of innovative product / process will lead to increased competitiveness and improvement in the image of the company. **[5%]**		
2	Objectives		
a.	Clarity in definition of objectives (Clarity may be assessed by examining whether objectives are in tune with vision, mission and core competencies of the company, whether final objective has been broken into smaller objectives for completing intermediate steps, whether objectives address environmental concerns, etc.) **[10%]**		
b.	Societal impact of the Objectives. **[5%]**		
3	Project Team		
a.	Strength of the Project team; their qualifications, experience, etc.**[10%]**		

b.	Team's access to latest literature, international patents on the subject and linkages and associations with research laboratories etc. **[5%]**		
4	Work Plan		
a.	Clarity in the work plan (Clarity may be assessed by examining whether milestones and time targets have been defined) **[10%]**		
b.	Deployment of Project Management tools (e.g. bar chart, pert chart and other advanced tools) **[10%]**		
5	Financials		
a.	Company's Financial Position and its ability to mobilize funds (other than DSIR's share) for the project **[10%]**		
b.	Estimation of budget details and their reasonableness **[5%]**		
6	Commercialization		
a.	Quality of Company's Marketing Strategy / Plan **[10%]**		
b.	Demand of the product/process being developed at the probable time of its introduction into market **[5%]**		
c.	Probability that the demand would sufficiently take care of the investments (DSIR and company's share) in the project **[5%]**		
	Total		

Final Recommendations

Signature