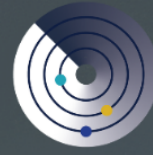




रक्षा मंत्रालय
MINISTRY OF
DEFENCE

सत्यमेव जयते



TECHNOLOGY
DEVELOPMENT FUND



STANDARD OPERATING PROCEDURE (SoP)

Technology Development Fund (TDF) Scheme

Directorate of Technology Development Fund (DTDF)
Defence Research & Development Organisation
Government of India, Ministry of Defence,
New Delhi - 110011

Standard Operating Procedure (SoP)

Engaging Industries for Developing Futuristic & Indigenous Technologies for Defence and Aerospace Applications



OCTOBER 2024

Directorate of Technology Development Fund (DTDF)

Defence Research & Development Organisation

Ministry of Defence, Government of India,

DRDO Bhawan, New Delhi - 110011

DRDO/ DTDF/01/13030/Funding of R&D Proj/M/01/976/D(R&D)/2024

Government of India, Ministry of Defence
Department of Defence Research & Development
DRDO Bhawan, Rajaji Marg,
New Delhi - 110011
Dated: Sep 2024

To


The Chairman
Defence Research & Development Organisation (DRDO),
Ministry of Defence,
DRDO Bhawan, New Delhi -110011

Subject: Technology Development Fund (TDF) Scheme – Amendment in SoP – reg.

I am directed to refer to GoI, MoD letter No. DRDO/DG(TM)/01/10048/M/C/01/1213/D(R&D) dated 10th July 2018 and to convey the approval of Competent Authority for amendment to Standard Operating Procedure for implementing Technology Development Fund (TDF) Scheme as per Appendix 'II'. The Annexures to the Appendix 'II' has been approved by the Empowered Committee.

2. All other contents of the ibid letter dated 10th July 2018 shall remain unchanged.
3. This issues with the concurrence of Ministry of Defence/Finance (R&D) vide their Dy. No. 570/MoD/Fin(R&D) dated 25th Sep 2024.

Yours Faithfully


(Gopal Mehra)

Under Secretary to the Govt. of India

Copy Signed in ink to:

1. The PCDA (R&D), West Block-V RK Puram, New Delhi
2. DG(TM), DRDO Hqrs
3. Director, TDF, DRDO Hqr

Copy to:

1. The CGDA, Ulan Batar Road, Palam, Delhi Cantt.
2. O/o Principal Director of Audit, Defence Service, Pune
3. DG(R&M), DRDO Hqrs
4. Addl FA (R&D) DRDO Hqrs
5. IFA (R&D), DRDO Hqrs
6. DFMM, DRDO Hqrs
7. DMS, DRDO Hqrs

राजनाथ सिंह
RAJNATH SINGH



रक्षा मंत्री
भारत
DEFENCE MINISTER
INDIA



MESSAGE

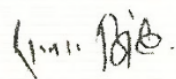
I congratulate DRDO and Directorate of Technology Development Fund in taking another step towards achieving Government's vision of "Atmanirbhar Bharat", particularly in the area of high end technology development. The modified Standard Operating Procedure, for Technology Development Fund attempt to simplify the existing procedure for tapping the competencies available in the private defence industrial ecosystem, particularly startups and MSMEs.

I believe that the modified and simplified SoP will facilitate further on-boarding of technology oriented enterprises in the defence R&D ecosystem.

I convey my best wishes for successful results under the scheme.

'Jai Hind'

New Delhi
30th Sept, 2024


(Rajnath Singh)

डॉ. समिर वी. कामत
Dr. Samir V. Kamat



सचिव, रक्षा अनुसंधान तथा विकास विभाग
एवं
अध्यक्ष, डीआरडीओ
Secretary, Department of Defence R&D
&
Chairman, DRDO



MESSAGE

At DRDO, our mission is not only to support innovation but to ensure that these innovations lead to tangible, world-class solutions for our armed forces. The Technology Development Fund's (TDF's) new SoP is testimony to our commitment to creating an enabling environment where industry and academia can collaborate with domain experts to develop solutions that are critical to national security.

The revised framework is a result of sustained effort, large scale consultations with all stakeholders and advice of eminent leaders in pertinent fields. It is designed to be comprehensive and efficient, removing traditional barriers that hinder progress.

Key features of SOP are simplified procedures for engagement, increased focus on MSMEs and Start-ups, greater flexibility in funding mechanisms to accommodate the varied nature of technology development projects, enhanced monitoring accountability and renewed focus on Deep-tech and Cutting Edge Technologies.

I invite all our valued stakeholders-innovators, MSMEs, startups, academic institutions, and industry leaders-to take full advantage of the opportunities provided by this new SoP. DRDO is committed to supporting you at every stage of the technology development process and fulfilling our shared vision of **"Atmanirbhar Bharat"**.

Samat

(Dr. Samir V. Kamat)

डॉ. सुब्रत रक्षित
विशिष्ट वैज्ञानिक एवं महानिदेशक
(प्रौद्योगिकी प्रबंधन एवं प्रणाली विश्लेषण एवं प्रतिरूपण)

Dr. Subrata Rakshit

Distinguished Scientist &
Director General (TM & SAM)



सत्यमेव जयते



एक कदम स्वच्छता की ओर

रक्षा मंत्रालय
MINISTRY OF DEFENCE
रक्षा अनुसंधान तथा विकास संगठन
DEFENCE RESEARCH & DEVELOPMENT ORGANISATION



FOREWORD

India has seen incredible advancements in indigenous defence technologies over the years, with DRDO largely playing the role of the lead researcher and developer. As the landscape matures, DRDO now has to play a pivotal role by enabling and synergizing with industry, MSMEs, Start-ups and academia. DTDF, in particular, has been a cornerstone in enabling our nation's technological self-reliance by fostering innovation, encouraging collaboration, and bridging the gap between design capability development and product development by industry.

This new TDF SoP is a step towards renewed commitment to empowering the Indian defence ecosystem. It reflects the evolving needs of our armed forces and the changing global landscape of technology. The TDF has been instrumental in engaging the brightest minds across the country, from startups and MSMEs to research institutions, bringing their expertise to the service of national defence.

The new SOP introduces measures that will make this platform even more accessible and impactful. By streamlining project approval processes, enhancing transparency, with respect to technical risks and national security requirements and promoting collaborations, we aim to deliver cutting-edge technologies that meet the specific needs of our armed forces in a timely manner, but without undue risk aversion. With a special focus on MSMEs and start-ups, this SOP ensures that smaller but highly innovative enterprises have a clear path to contribute their technologies to the defence sector.

As we continue to push the boundaries of innovation, we must harness the potential, I hope and wish TDF will continue to bring fresh perspectives and breakthrough solutions.

Jai Hind.

Dr Subrata Rakshit

Distinguished Scientist & Director General, Technology Management

वेदवीर आर्य, भा.र.ले.से.

संयुक्त वित्तीय सलाहकार एवं अपर सचिव

Vedveer Arya, IDAS

Joint Secretary & Addl. Financial Adviser



सत्यमेव जयते



एक कदम स्वच्छता की ओर

भारत सरकार

रक्षा मंत्रालय

रक्षा अनुसंधान तथा विकास विभाग

537, डी आर डी ओ भवन,

नई दिल्ली-110011

GOVERNMENT OF INDIA

MINISTRY OF DEFENCE

DEPARTMENT OF DEFENCE R & D

537, DRDO BHAWAN

NEW DELHI-110011



MESSAGE

Technology Development Fund (TDF) is an initiative that holds immense potential in India's journey toward technological self-reliance in the defence sector. We must ensure that the resources allocated to our defence innovation efforts are utilized efficiently, transparently, and for maximum impact. The revised SOP is a vital step in achieving this vision, providing a streamlined, financially prudent, and effective framework for supporting indigenous technology development.

India's growing defence needs are becoming increasingly complex and to meet these needs requires a strategic approach to funding and resource management. Through TDF, we have been empowering MSMEs, startups, in collaboration with the academic institutions with the financial support necessary to innovate in critical technology areas. This new SoP strengthens these efforts by introducing clearer and more efficient financial processes that are designed to make the most of every investment we make in defence technology.

As we move forward with this new SoP, it is essential to remember that financial planning and innovation go hand in hand. We are investing not just in technology, but also in the industrial capabilities of our nation. Every investment made through the TDF must contribute to building the self-reliant, cutting-edge defence capabilities that our armed forces need.

I extend my best wishes to all the innovators and organizations participating in the TDF and look forward to the incredible technological advancements that will emerge from this initiative.

Jai Hind.

Vedveer Arya
Addl Financial Advisor

निधि बंसल

निदेशक, प्रौद्योगिकी विकास निधि निदेशालय

NIDHI BANSAL

Director, Directorate of Technology Development Fund



सत्यमेव जयते



प्रौद्योगिकी विकास निधि निदेशालय
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MESSAGE

I am both excited and enthralled at the launch of the amended Standard Operating Procedure (SoP) for the Technology Development Fund (TDF). Since its inception, the TDF has played a transformative role in building an ecosystem of innovation in India's defence sector. By providing financial and strategic support to MSMEs, Start-ups, and Academia, the TDF has empowered numerous indigenous solutions and helped shape the path to a more self-reliant India in defence technology.

This new SOP is not just a procedural update, it is a statement of our intent to scale up our efforts, improve efficiency, and provide even greater opportunities for industry alongwith academia to contribute towards development of critical defence technologies. It embodies our collective vision for a defence ecosystem that is agile, forward-looking, and focused on leveraging India's innovation potential to the fullest.

I exhort all researchers, entrepreneurs, and technologists to engage with the TDF's new framework and explore the opportunities it provides. Let's ensure that our armed forces are equipped with the most advanced, indigenous solutions to make the nation Self - Reliant and contribute towards making India a "Technology Leader".

Jai Hind.

Nidhi Bansal
Director, TDF

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(A). INTRODUCTION: TECHNOLOGY DEVELOPMENT FUND (TDF) SCHEME

1. Defence Production Policy promulgated in 2011 by the Ministry of Defence considers self-reliance in defence manufacturing as a vital strategic and an economic imperative and places emphasis on utilizing the emerging dynamism of the Indian industry by leveraging domestic capabilities for the growth of the Indian defence industry. In pursuance of this Policy, the Government of India announced the setting up of a 'Technology Development Fund (TDF)' in the Union Budget 2014-15, which aims at funding the development of defence and dual use technologies that are currently not available with the Indian defence industry or have not been developed so far.
2. The funding will be through provision of grants-in-aid to public and private sector industry especially MSMEs that may work in collaboration with the academia or research institutions to carry out innovation, research and development; such chosen entities will be referred to as Development Agencies (DAs). In cases where academia or research institutions are involved, their work involvement cannot exceed 40% of the total efforts required.
3. The focus will be on funding development of technologies that will form the kernel of components/Assemblies, which will in turn be used to develop defence equipment/systems/sub-systems/platforms.
4. Only Indian vendors including Consortium are eligible for participation.
5. Successful development under this scheme would result in the DAs jointly owning the IPR along with DRDO.
6. The scheme will be executed by decision-making committees under the overall guidance and overview of RM. Empowered Committee (EC) will be the decision-making committee about policy and process of TDF scheme and projects.

(B). TYPE OF PROJECTS FOR FUNDING SUPPORT

7. Under the TDF scheme, the following nature of products/technologies will be covered:

- 7.1. Significant up-gradation/improvements/ further developments in the existing products/process/application/upgrades, in terms of reduced material consumption, improved functioning, improved quality, reduced energy consumption resulting in overall cost reduction.
- 7.2. Technology readiness level up-gradation from TRL3 onwards to realization of products as per Services requirements.
- 7.3. Development of futuristic technologies/innovative products which can be useful for the Defence applications in the future.
- 7.4. Import substitution of components whose technologies does not exist with the Indian industry and where there is a clear need from the User.
- 7.5. The scheme will be limited to development of technologies or prototype having potential use of Defence/National Security/Dual use.
- 7.6. The financial criteria for inclusion of projects under the TDF scheme will be that the cost of development spread across all the required technology development phases will not exceed INR 50 crore. Projects with budget above INR 50 crore may be taken up after approval from RM.
- 7.7. Typically, the projects under the TDF scheme will not exceed a development period of four years.

(C). EMPOWERED COMMITTEE

8. Composition: The Empowered Committee, under the chairmanship of Secretary (DDR&D) will be the apex governing and principal decision-making body, for matters pertaining to the TDF scheme.

The Empowered Committee reports to the Raksha Mantri (RM), who has the powers to overrule its decision. The composition of the Empowered Committee shall be as follows:

Secretary DDR&D	Chairperson
AS (DP)	Member
CISC	Member
VCOAS	Member
VCAS	Member
VCNS	Member
JS & Addl FA (R&D)	Member
AS/JS(SME)	Member
Representative from Academia/ COE (to be nominated by Secretary DDR&D)	Member
DG (TM) DRDO	Member Secretary
Representative of an External Agency (on a need basis)	Special Invitee
Director TDF (DRDO)	Permanent Invitee

9. Roles and Functions of Empowered Committee are as follows:

- 9.1. Identification of the projects based on evaluation and recommendation by Technical Committee.
- 9.2. Approval of cost overruns beyond the approved project budget where Secretary DDR&D is the CFA based on recommendation of Technical Committee as per the DFP in vogue.
- 9.3. Recommend cases of cost overruns to RM where Total project budget exceeds INR 50 Crore after revision to enhanced cost.

- 9.4. Approval of closure/foreclosure of the projects based on the recommendation of the Technical Committee including funds write-off to the DAs.
- 9.5. Approve certification of developed product/technology as “Fit for Military Use” after successful development of the prototype, based on the recommendation of Technical Committee on case-to-case basis.
- 9.6. Granting stipulation of MOQ from user in case of indigenisation/import substitution projects for procurement for developed product, after successful development of the prototype on case-to-case basis.
- 9.7. Approval of the goal/objective revisions on the recommendation of TC where Secretary DDR&D is the CFA.
- 9.8. Recommend and obtain RM’s approval for granting cost overruns and revisions in goal that are beyond the powers of the Empowered Committee.
- 9.9. Empowered Committee will meet once in three months or as and when required.
- 9.10. Empowered Committee will have power to institute any subcommittee or mechanism to receive inputs for helping the decision-making. Decision of all such sub-committees instituted by EC shall be non-statutory in nature.
- 9.11. Empowered Committee will have the powers to define and amend the processes stipulated for the execution of the scheme & projects as and when necessary, within the extant guidelines of GoI provided that the EC does not deviate from the SOP approved by Hon’ble RM.
- 9.12. Empowered Committee will be empowered for decisions pertaining to Cost and Change of scope where Secretary DDR&D is the CFA, re-appropriation, failures, short closure, stage closures as per the Grants-in-Aid guidelines of Govt of India.

The decision of the Empowered Committee shall be the final for all TDF projects up to 50 Cr.

- 9.13. The Empowered Committee will be the decision-making body for selection of projects within the extant guidelines of GoI and formulation of policies and process for execution of TDF scheme.
- 9.14. All the decisions of the EC will be taken in collegiate manner.
- 9.15. Brief the RM on a timely basis regarding developments and project progress under the TDF scheme.
- 9.16. Empowered Committee will decide the mode of inviting proposal and number of DAs on the recommendation of Technical Committee.

(D). TECHNICAL COMMITTEE

10. Composition: The Technical Committee constituted under the chairmanship of DG (TM), DRDO will be the key operating body for matters pertaining to the TDF scheme. The Committee will report to the Empowered Committee.
11. The Technical Committee composition will be as follows:

DG (TM), DRDO	Chairperson
Representative from Army HQ	Member
Representative from Air HQ	Member
Representative from Naval HQ	Member
Representative from Integrated Defence Services (IDS)	Member
Representative of DDP	Member
IFA (R&D) DRDO HQ	Member
Representatives of Concerned Industry Associations (2 Nos)	Member
DRDO Experts	Member
Representative from Academia (To be nominated by Secretary DD R&D)	Member
Director PMs for User Cluster	Special Invitee
Representative of an External Agency (on a need basis)	Special Invitee
Director TDF	Member Secretary

12. Roles and Functions of Technical Committee are as follows:

- 12.1. Identify technologies that need to be developed through funding under the TDF scheme on the basis of LTTPP (Long Term Technology Perspective Planning). This includes taking inputs from a mix of appropriate sources such as SHQs, DRDO, DMA, and DDP only.

- 12.2. Preparing the roadmap for short-, medium- and long-term research and development by industry for approval of Empowered Committee.
- 12.3. Conduct Feasibility Studies, where ever needed. Technical Committee may constitute a Feasibility sub-committee for undertaking the study, where needed.
- 12.4. Classify the identified technologies as sensitive and non-sensitive, etc.
- 12.5. The Technical Committee will request for periodic consolidated plan of the TDF users to help in prioritization. However, new requirements may be added at a later time based on merits of the case and may be given due priority. EC will take final decision on the recommendation of the TC. TC may constitute a sub-committee for undertaking this task.
- 12.6. Recommend the proposed Statement of Case (SoC) proposed by DTDF to Empowered Committee for seeking approval for development of the technology / product.
- 12.7. Constitute the Project Monitoring & Mentoring Group for TDF projects. It may have standing members from DRDO lab / DG Clusters & other technical experts from internal & external pool of professionals. Chairman PMMG should be scientist 'F' or above from DRDO only, since their role includes financial and admin decisions.
- 12.8. Approve release of funds for the various phases of development i.e milestone closure based on the recommendation of the PMMG.
- 12.9. Review and approve the recommendation of PMMG regarding progress of the TDF project and revision of goals if any, where CFA is DG (TM).
- 12.10. Recommend cases of progress of the TDF project and revision of goals if any, to EC where Secretary DDR&D and above is the CFA or does not fall under TC's purview.

- 12.11. Recommend re-appropriation of project funds under cost heads based on the recommendation of PMMG. Approve where Chairman TC is the CFA.
- 12.12. Oversee and monitor the overall implementation of the project.
- 12.13. Recommend project for closure/foreclosure to the EC based on the inputs from PMMG / DTDF.
- 12.14. Approve time overrun of the original duration of any project for final concurrence by CFA.
- 12.15. Approval of cost overruns beyond the approved project budget where DG (TM) is the CFA (after cost enhancement.) Recommend cases to EC where the CFA is Secretary DDR&D and above (after cost enhancement).
- 12.16. Technical Committee may constitute any subcommittee to expedite its tasks related to TDF scheme. All such subcommittees will be non-statutory in nature.
- 12.17. DG(TM) will have all the power to take the decisions pertaining to the execution of a TDF project, based on the recommendation of the PMMG where DG(TM) is the CFA for Technical Committee on the guidelines of GoI.
- 12.18. Technical Committee will meet once in two months or as and when required.
- 12.19. TC will be the final authority for PDC extension (subject to CFA approval on file), PMMG constitution, feasibility analysis, Milestone closures and release of funds.
TC will also approve scope change, revision of goal, cost change where DG TM is the CFA.

(E). TECHNOLOGY DEVELOPMENT FUND DIRECTORATE

13. DRDO has established a Technology Development Fund Directorate (herein referred to as Directorate), headed by Scientist G or equivalent and staffed appropriately with professionals of various ranks and specializations. Officers of the Directorate shall coordinate with DRDO labs/user/stakeholders and be members / member secretaries of the Project Monitoring and Mentoring Group (PMMG) which will function under the overall control and directions of the Directorate, who shall be responsible for ownership of the projects under the TDF. The Directorate will be responsible for the following:
- 13.1. Obtain Approval by processing a SoC for proposed projects from EC. Process Statement of Case (SoC) with inputs from DRDO experts / user /DG (Clusters) & other Stakeholders for each TDF project and collate comments from EC.
 - 13.2. Process each TDF project for which Approval has been accorded by the Empowered Committee.
 - 13.3. Monitoring of all projects under the TDF scheme.
 - 13.4. Ensure development as per schedule and brief Empowered Committee & Technical Committee at regular intervals on the project progress.
 - 13.5. Assign responsibilities and hold task owners accountable for delivery.
 - 13.6. Identify potential issues and resolve them through the committees concerned.
 - 13.7. Maintain the database of all projects under TDF.
 - 13.8. Conduct meetings for the execution of the TDF scheme.
 - 13.9. Conduct innovation contests for soliciting feasible project proposals for consideration under TDF scheme. Winners of such innovation contests may be considered for TDF projects based on feasibility and merit of the proposal.

- 13.10. Roll out projects under Bilateral Innovation Agreement with Friendly Foreign Nations and make efforts for identification of suitable match through joint meetings.
 - 13.11. Carry out any other tasks as per directions of TC/EC.
 - 13.12. Provide Platform to the DAs to showcase the products, where successful development under TDF scheme has happened at National and International level.
14. The Directorate has to carry out outreach programs and empanel suitable experts from the fields of finance, legal and technology from both the private and public sectors; the Directorate may solicit services of external agencies to roll out outreach programs, empanelment of experts and for providing technical and administrative support.

(F). METHODOLOGY FOR TECHNOLOGY DEVELOPMENT UNDER THE TECHNOLOGY DEVELOPMENT FUND SCHEME

15. Development process under the TDF scheme will consist of the following major functions:
 - 15.1. Advance planning based on “Top down” or “Bottom up” Identification of potential projects from phase wise consolidated plan/Technology Grid/Long-term, Mid-term, short-term plan/Suo-Moto/Dare to dream winners/ other National innovation contests / National pool of experts /reps from DG (Clusters)/ any other potential requirements etc & conducting of Feasibility Study (wherever needed) by TC or its sub-committees.
 - 15.2. Recommendation of the TC based on the feasibility of the project.
 - 15.3. Formulation of SoC by DTDF with inputs from user / DRDO experts /other stake holders / external experts. SoC will include TPR, Evaluation Criteria, No of DAs, Mode of inviting proposals & type of industry.

- 15.4. Preparation of Technology Parameter Requirements (TPR) by User.
- 15.5. Approval of Empowered committee
- 15.6. Constitution of the Project Monitoring and Mentoring Group by Technical Committee.
- 15.7. Preparation of PDD by PMMG and approved by TC
- 15.8. Issue of RFP by DTDF on dedicated website hosted on NIC server.
- 15.9. Soliciting Offline response to Project Definition Document (PDD) published online in “Single Bid Two Envelope System” by DTDF.
- 15.10. Interaction & Evaluation of DPRs by PMMG
- 15.11. Cost Estimation by PMMG including costing experts / finance experts before CNC
- 15.12. Shortlisting of DAs by TC and opening of Bids by CNC committee.
- 15.13. Cost Negotiation process by CNC as per extant provisions of Government of India.
- 15.14. Selection of DA/s through evaluation criteria approved by EC
- 15.15. Approval of CFA on file and Funding
- 15.16. Monitoring of Projects post award.

(G). IDENTIFICATION OF POTENTIAL PROJECTS

- 15.17 On the basis of LTTPP (Long Term Technology Perspective Plan) and inputs from SHQs, Department of Defence production (DDP), DRDO, DMA only. Bilateral/Multilateral development with Friendly Foreign Nations, Suo-Moto from Industry / start-ups/ Ideas from National innovation contest winners and dual use requirements received from other sources and any other requirement as decided by Empowered Committee.

- 15.18 Technical Committee will identify potential projects to be undertaken under the Technology Development Fund scheme. Potential projects should be identified either annually or for a specified period and those can be updated at fixed intervals. Besides, DRDO will also initiate collegiate discussions on such potential projects with various stakeholders such as DRDO, DDP, SHQs, Indian Industry etc., in early stages; this will enable potential R&D institutions and DAs to take necessary steps to undertake requisite R&D efforts and/or investments for infrastructure up-gradation. These collegiate discussions shall take into account the complexity of the technology required to develop for defence equipment /system / subsystem/platform or upgrades thereof. These discussions shall provide inputs for feasibility of the proposed projects from all relevant stakeholders.
- 15.19 Based on the inputs received as detailed above in para 15.17 and 15.18, or any other cases as may be appropriate, TC will recommend case for project identification, undertaking project for technology development funding. DTDF will process SoC (recommended by TC, Inputs from user) approval from EC after recommendation of TC. EC may also assign DRDO labs / DG Cluster if needed, for the requirements received.

(H). FEASIBILITY STUDIES

16. TC will recommend the projects based on the feasibility of the requirement. TC may constitute a feasibility subcommittee to receive input. The aim of the feasibility is to identify the projects which the Indian industry has the capability to design and develop, within the required parameters.

17. The feasibility study for each TDF project shall be carried out with the involvement of all important stakeholders such as HQ-IDS, Services, DDP, and DPSUs, as required. Industry associations including MSME Associations, OFB and DPSUs may be consulted if considered necessary. DRDO may engage external agencies possessing the expertise in preparation of the feasibility study report.
18. The Technical Committee will get a Technology Grid developed through a suitable external agency, which will have a comprehensive list map of all the industries in the Indian Defence Sector and exhaustive details of their research capabilities, technical competencies, infrastructure, manpower details, turnover etc. The Technology Grid will enable the Technical Committee to ascertain the suitability of organizations to be chosen as DAs. The Technology Grid is an evolving document warranting constant upgradation on a real time basis. Technical Grid will be approved by EC annually.
19. The feasibility study shall include the following aspects:
 - 19.1. Long term interests for indigenous development of defence/ National Security technology capability and its applicability in equipment/ system/ sub-system/ platform/ components or their upgrades, as required or will be required.
 - 19.2. A preliminary assessment of capability of Indian industries to undertake design and development of components/ assembly, etc. bearing the technology, through Technology Grid and Industry interaction, as needed.
 - 19.3. Estimated time for development.
 - 19.4. Estimated cost of development.
 - 19.5. Estimated cost of the component bearing the technology.
 - 19.6. Number of DAs to be selected based on the cost of the prototype development complexity and any other considerations.
 - 19.7. Exit criteria.
 - 19.8. Any other aspects considered important.

20. Feasibility report shall be prepared by DTDF through sub-committees/user/stakeholders and presented to TC for evaluation & recommendation of proposal for approval.

(I). ACCORD OF THE IN-PRINCIPLE APPROVAL BY THE EMPOWERED COMMITTEE

21. DTDF will process Statement of Case (SoC) for the proposed project in coordination with user, DRDO experts, and other stakeholders, based on inputs provided by the user, justifying the need for investing in the development of the particular technology. The same will be submitted to the Empowered Committee after recommendation of the TC, which would examine aspects of inter-operability and commonality of technology for the users. Feasibility study along with a list of prospective DA(s) and TPR will be enclosed with the SoC.
22. The following would be highlighted by DTDF in the SoC for seeking approval from Empowered Committee:
 - 22.1. A brief on the need to invest in and develop the technology.
 - 22.2. Estimated time for development.
 - 22.3. If any vendor has suo-moto taken up development
 - 22.4. Likely Development Agencies
23. The approval for TDF projects will be valid for one year. In cases where RFP is not issued within one year from accord of approval, the Technical Committee would have to move a case for revalidation of approval with due justification for not processing the case within one year. For cases where the original RFP has been issued within one year from accord of approval, and later retracted for any reason, the approval would continue to remain valid, as long as the original decision remain unchanged, and the subsequent RFP is issued within six months from the date of retraction of the original RFP.

(J). CONSTITUTION OF PROJECT MONITORING AND MENTORING GROUP (PMMG)

24. Once a proposed TDF project has received an approval from EC, a Project Monitoring and Mentoring Group will be constituted by the Technical Committee. For lab projects, the Chairman of PMMG and experts will be drawn from lab, user and external experts. PMMG will consist of representatives from SHQs, HQ-IDS, DRDO, DDP, DGQA, and Advisor- Cost, AFA / IFA, academic experts from DRDO CoE's, and other experts on required basis. The PMMG will prepare the Project Definition Document (PDD), assist in evaluating DPR proposals received from industries, and monitor post-award progress of their assigned project and report the same to TC through DTDF. TC may also appoint PMMGs from technology clusters/verticals/external where it deems fit. The PMMG will have a core technical team to undertake technical activities. Other members will be involved on need basis. PMMG is a recommending body. For pre award activities, support from Domain Experts may be taken for preparation of SoC/ TPR/ Evaluation criteria etc.
25. Representatives from user and DRDO experts will be part of PMMG. User and DRDO experts will assist the PMMG in carrying out its roles and responsibilities.
26. In case, suitable lab/experts are not available, the PMMG may be formed with external nominated experts under the guidance of Technical Committee for review, monitoring and mentoring of the TDF projects.

(K). ISSUE OF PDD AND SOLICITING DPRS

27. For every TDF project for which approval has been accorded by Empowered Committee, DTDF & PMMG will carry out the following functions:
28. Preparation of Project Definition Document (PDD): The PMMG under the guidance of Directorate and Technical Committee will prepare a Project Definition Document (PDD). The PDD shall be approved by the technical committee and shall serve as the principal guidance document for preparation of DPR.
29. Short listing of likely Indian companies/organizations for issuing PDD: Short listing of Indian vendors for issue of PDD shall be done by the PMMG & TC based on the TDF Technology Grid, and additional companies/organizations if any, as per response to DRDO's request for proposal from Indian entities hosted on the DRDO website / Dedicated website.
30. PMMG shall provide cost estimate after DPR evaluation involving the costing/finance experts. The same will be submitted to the Technical Committee (TC) / Empowered Committee (EC) and will be used for cost estimate/benchmarking the TDF Project for project financial sanction.
31. All evaluation criteria, sub-criteria etc., including respective weightages accorded to each of them, for assessing responses from DPR will be approved by EC and included along with issue of PDD. The same along with PDD will be published on Dedicated website hosted on NIC domain for soliciting responses from Indian Industries in form of Detailed Project Report (DPR). The DPR will be received in Offline mode in "Single Bid Two Envelope System." The Milestones deliverables will be decided by Technical Committee on the recommendation by PMMG.

32. Indian industries shall have the choice to respond to RFP either in their individual capacity, or as a consortium of Indian companies/organizations, through an consortium Agreement led by a lead respondent. Indian vendors may also collaborate with academic institutions through an MoU. TDF will engage with lead DA only and the fund will be released to lead DA only. The responsibility of execution of the project will remain with lead DA only.

(L). SELECTION OF DEVELOPMENT AGENCY (IES)

33. The DTDF through PMMG will undertake an assessment of DPRs based on approved criteria. Selection of DA will be through “Single Bid two envelope system” offline. It shall be ensured that the evaluation criteria relate only to the project proposal, research, design, and development capabilities in India, including past experience, and other relevant parameters and performance of respondents as may be required. Inspection of vendors premises should be avoided and selection should, to the extent possible, be based on self-certification.
34. In the case of PDD/DPR respondents forming a consortium, the assessment shall be carried out with specific reference only to the roles and responsibilities of individual members under their consortium Agreement.
35. The list of Indian vendors or consortium as stated above, ranked as per the evaluation criteria and recommendation shall be forwarded by the Directorate to the Technical Committee, for selection of vendor as per Approval. The selected vendor shall be referred to as Development Agency (DA).
36. The DPRs submitted must include BoQs and cost projections and project milestone timelines. The DPRs will be examined with specific reference to proposed project milestones as described in the PDD. Based on the assessment of the DPRs, QCBS will be followed for selection of the DA/s. The shortlisted industry (ies) will be referred to

as Development Agency(ies) (DA). Generally, two DAs will be selected per TDF project. DAs selected post the examination of their DPRs will be issued a Government Sanction Letter (GSL)/Project Sanction Order.

37. The idea of the scheme is to create broad industry base, therefore, the capping limit for the awarded projects shall be to a maximum of 02 projects as Lead DA. Any additional projects to a particular industry can only be given on the decision of EC justifying the reasons. Any changes to these criteria shall be made by the decision of the EC.
38. Prior to CFA approval, the Directorate will engage with the selected DA(s) for any modifications /refinements/ amendments to DPR, if considered necessary. DA(s) may collaborate with academic and/or research institutions and/or foreign companies/foreign research and academic institutions having required technologies for the development of project. DA(s) would be required to disclose the details of such collaborations in DPR. Directorate will submit the finalized DPR to the Empowered Committee, through the Technical Committee, for approval.

This collaboration may be in the form of Bilateral or Multilateral projects with friendly foreign countries through a MoU signed between the respective governments. For the purpose of TDF, Foreign Friendly Countries shall be the ones with whom Bilateral Agreements have been signed for S&T and Research between G to G and who have good ties with Govt of India. The Confidential information sharing with the foreign Friendly Countries will be through appropriate permissions of GoI. Such projects under Bilateral Innovation Agreement with friendly foreign nations would require Hon'ble RM's approval.

(M). CFA APPROVAL AND FUNDING

39. The selected DAs may be given weightage while awarding a follow-up project related to the project originally awarded for cases where follow-up design & development is required for application of technology successfully designed/developed in the original project.
40. The financial sanction for project development under the TDF scheme, taking all related costs into account, would be obtained by the Directorate as per the delegation of financial powers.
41. Funding for development projects approved under this procedure shall be borne under the Account Head 'Technology Development Fund Account', operated by the DRDO.
42. The projects up to INR 10 Crores will be considered for funding subject to a maximum of 90% of the total project cost in general; however, up to 100% funding may be considered under the scheme, on a case-to-case basis. Projects greater than INR 10 Crores and up to INR 50 Crores will be considered for funding subject to a maximum of 70% of the total project cost in general; however, up to 100% funding may be considered on a case-to-case basis.
43. The percentage distribution of assistance under the TDF scheme will be as follows:
44. Indian companies - up to 90% of the project cost in general however this may be enhanced up to 100% of project cost on case-to-case basis.
45. In case of collaboration between R&D /Academic institution and the company, the respective share of R&D /Academic institution may be funded to the extent of 100%.

(N). RELEASE OF FUNDS: 1ST INSTALMENT & SUBSEQUENT INSTALMENTS

46. Funding Mechanism: TDF requires various a flexible funding approach, for applicants to feel encouraged and apply. Hence, the following is proposed.
- 46.1. Upon signing the Design & Development Contract with DRDO, post issue of the project sanction letter/ GSL, the successful applicant will be entitled to receive up to Milestone – I of the total funding amount approved upon providing a Bank Guarantee of the same amount. The funding for the first milestone may be done on reimbursement basis.
- 46.2. A staggered approach towards project funding in this technology development project will be provided in the form of advance funding available for the remainder of 80% of the sanctioned amount. Subject to a maximum of five (05) “Milestones” of the project, applicants can seek an advance upon producing a Bank Guarantee of the same amount as collateral.
47. The release of initial and subsequent instalment as reimbursement of Project expenditure incurred under the TDF Scheme, for the on-going supported projects will be based on the PMMG Review Reports and completion of milestones and deliverables a mutually agreed between the DA and DRDO and outlined in the Development Contract.
48. In some cases, milestone-based advance may be given to the DA and R&D/Academic institutions. However, DAs and ‘Other than Government owned’ R&D/Academic institutions shall be given advance only against bank guarantee of equal outstanding amount. Government-owned* academic/ R&D institutions need not submit any bank guarantee for seeking advance.

49. For release of subsequent instalments, the DAs shall be required to submit the following documents:

- 49.1. Detailed Project Update Report
- 49.2. Utilization Certificate & Statement of Expenses (UC & SE)
- 49.3. Certificate from Chartered Accountant
- 49.4. Based on the review reports/meetings and documents submitted by Project Applicant/Partners, the Directorate will recommend for disbursal of subsequent funding instalment to the project applicants.
- 49.5. Periodic monitoring and review of the projects will be carried out by the Technical Committee through PMMG. Fund instalment would, subsequently, be released as per the approved milestones and on the basis of review of progress report by Technical Committee through PMMG.

***Government of India or State Government under the Federal Union of India.**

(O). ACCESS TO BOOKS OF ACCOUNTS

50. The DAs shall maintain separate books of accounts with an independent bank account, for the project sanctioned under TDF scheme; DRDO or its authorized representative(s) shall have unfettered rights to access these books of account of DAs.

(P). COST OVERRUN

51. In case of cost overruns, the DA will have to make a formal request explaining the reasons for cost overruns and reasons why they were not foreseen at the time of presenting the DPR. The Directorate will process the request and forward the same to the Technical Committee, which would take a decision on the request and seek approval of the Empowered Committee.

52. Cases of cost overrun where total development cost remains under 50 % of the approved amount, after including the overrun amount, will be approved by Empowered Committee based on the merits of the case and review by Technical Committee. Cases where the total development cost, after including the overrun amount, exceeds more than 50 % of the approved amount, will be approved by the RM after review by the Empowered Committee. For the cost escalated to within the power of DG (TM), the Technical Committee shall be the approving authority.

(Q). TIME OVERRUNS

53. The extension of timelines for the TDF projects will be granted based on approval of the Technical Committee & recommendation of PMMG. In cases of any delays in the date of completion of the Project, there will be a reduction of weightage as per the Evaluation criteria (Adherence to Timelines) given to the respective DA when considering for granting future TDF Projects on the recommendation of TC.

(R). FORECLOSURE / SHORT CLOSURE

54. In cases where the project does not proceed according to the predetermined milestones as agreed in the DPR, and/or if there are undue time and cost overruns, or failure of the prototype(s) on staff evaluation or on account of any other reasons, the TDF project may be foreclosed in respect of the concerned DA(s) and proposal for foreclosure will be approved by the Empowered Committee.
55. In such cases, the total expenditure made by the DA(s) on the technology/prototype development till foreclosure would be assessed and if excess funds have been paid to the DA(s), the same shall be recovered and if the expenditure is in excess of the amount paid, the balance shall be paid to the DA(s). The total amount paid to the DA(s) shall be written off with the approval of the competent authority.

(S). DISPOSAL OF TANGIBLE ASSETS AND INFRASTRUCTURE CREATED IN TDF PROJECTS

56. The ownership of all developed prototypes /deliverables under the TDF scheme shall vest with the user. The tangible assets created for the development of the project shall be with Development Agency. In case DRDO has funded the assets, DA shall retain the assets at book value and furnish a certificate to the DRDO for having taken on its books of accounts, as per the extant provision of Government of India. In case user is not part of MoD, the prototypes and deliverables shall be taken over by DRDO cluster. DRDO may transfer the same to the user for further exploitation. The milestone deliverables in form of technology/ prototype/ artefacts will be handed over as consumable inventory for testing and utilization to the PMMG by the DA. Later the same may be passed on to the following:

- a) User for Trial and consumption by Industry, or
- b) DRDO Lab for evaluation of fitness for incorporation in ongoing or future TD/MM projects.

56.1. In case of foreclosed TDF projects, the tangible assets thus created may be disposed of as per the extant Government guidelines. Expenditure incurred on intangible assets as defined in the relevant Indian Accounting Standards will be written off with the approval of competent authority.

(T). INFRASTRUCTURES

56.2. The large industries will utilize their existing infrastructure for R&D actives related to the projects as far as possible. Large Industries may liaise/ utilize the other infrastructures in the country at their own expenses as far as possible.

56.3. MSMEs and Start-ups may utilize TDF funding to create the infrastructure for R&D related to the project, if needed. The cost of the same shall be clearly mentioned in their bid submission.

- 56.4. DRDO will share its test facilities to MSMEs/Startups and Academia for the projects undertaken in TDF through a laid down policy
- 56.5. Development Agency will allow DRDO to use the infrastructure free of cost, if procured with the grant money (Partially or Fully).

(U). MONITORING POST COMPLETION OF THE PROJECT TO ASCERTAIN THE IMPACT AND CREATE A DATABASE OF THE TECHNOLOGIES AND ITS PROVIDERS

57. Project Closure Report (PCR): Project Closure Report bringing out success / failures / partial success highlighting knowledge / technology enhancements
- 57.1. DRDO will be providing opportunities to showcase the successful developed technology at National/International forums, wherever feasible.
- 57.2. For such projects, Empowered Committee may approve certification of the developed product as 'Fit for Military Use' for successful completion. The same shall be issued by DRDO to the DA as per provisions in DAP-2020 on case-to-case basis. The user shall provide MOQ after Single Stage Composite Trial (SSCT) for the developed product as per DAP-2020.
- 57.3. Upon successful completion of SSCT for indigenization projects, user shall provide PSQR for MOQs, if any based on PDD. The user trials will not be part of technology development projects.
58. If project fails at any stage, the implementing DA(s) would be requested to submit Project Failure Report (PFR) before settling of accounts. This report will be reviewed by respective PMMG, for the purpose of compiling case studies and lessons learned. Key learnings from such case studies may be disseminated through publications, websites and other means, taking into account the confidentiality aspects.

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**TECHNOLOGY
DEVELOPMENT FUND**

भारत सरकार, रक्षा मंत्रालय,
रक्षा अनुसंधान एवं विकास संगठन
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