

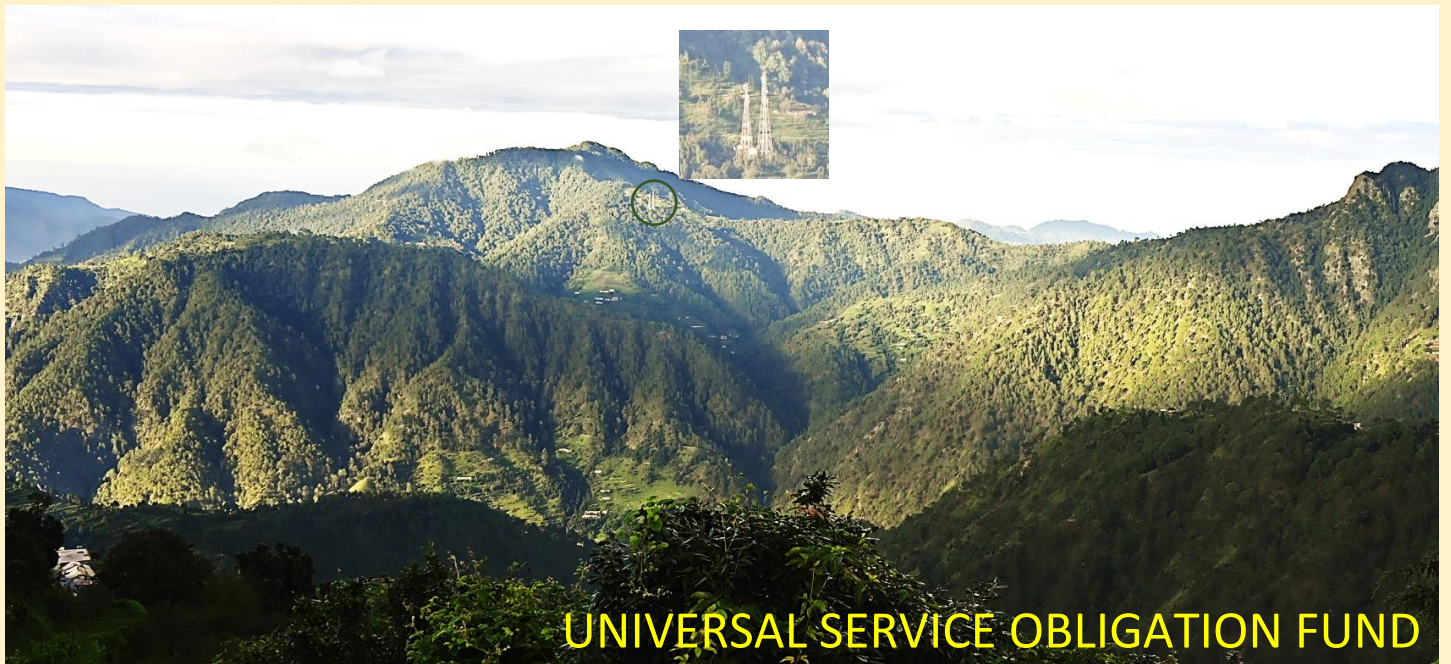
*Digital opportunities for
people through innovative
technologies and solutions*

TELECOM TECHNOLOGY DEVELOPMENT FUND



GUIDELINES

*for building the state-of-the-art
technologies to enable
proliferation of affordable
broadband and mobile services in
Rural and Remote areas*



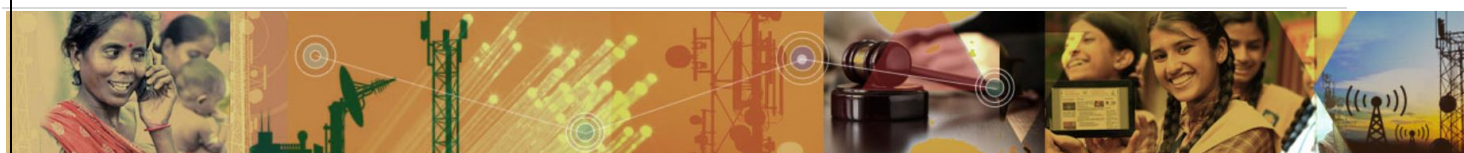


- *Ease of doing R&D*
- *Minimum Compliance*
- *Spectrum facilitation*
- *Large funding*
- *Mentoring*
- *Prototyping to Commercialization*
- *Pilots*
- *High Impact Projects*
- *Consortium Projects*



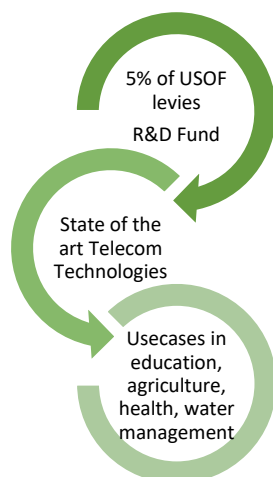
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1. Telecom Technology Development Fund

1.1. The Telecom Technology Development Fund Scheme (hereinafter referred to as ‘Scheme’) has been notified for domestic companies and institutions involved in technology design, development, commercialization of telecommunication products and solutions to enable affordable broadband and mobile services in rural and remote areas.

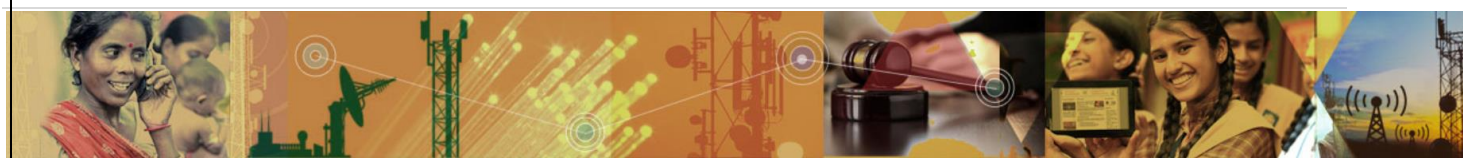


1.2. Telecommunication technology products require significantly large funding and long gestation periods for R&D and commercialization including the additional efforts and resources for the products to move from prototype to commercial grade. In the cases of high impact deep tech projects, elaborated in later sections, there is a need for higher funding to build such products at affordable cost to enable state of the art services for rural areas in the country.

1.3. Taking note of this strategic need in telecom sector and to create a large pool of capital available for R&D in the country, different financing instruments are offered under various schemes of the Government of India to develop indigenous technologies and solutions.

1.4. Apart from the existing R&D funding mechanisms, annual collections under the Universal Service Obligation Fund (USOF) will also be utilized by the Department of Telecommunications (DoT) for funding research and development of technologies, products and services for the purpose of providing telecom services in rural and remote areas. An allocation of 5% of annual collections from USOF will be available for funding R&D in the Telecom sector, starting with the funds collected in the financial year 2021-22.

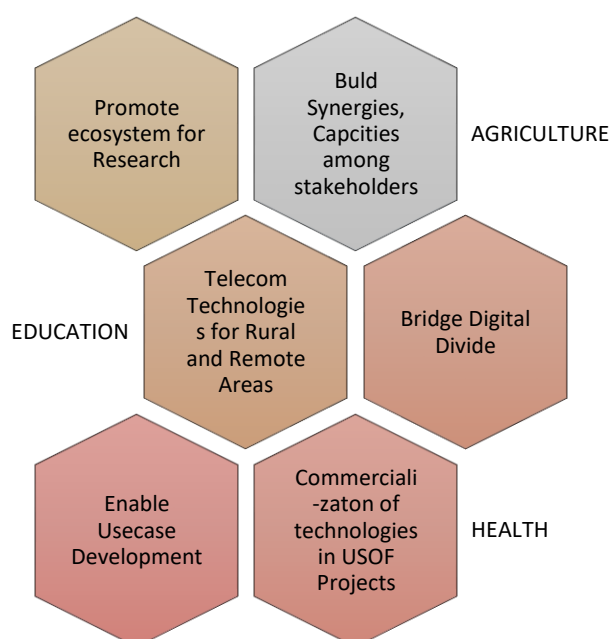
- 1.5. Commercialization and adoption of these telecom technologies and solutions developed shall be given a priority including through USOF schemes.
- 1.6. Induction of new technology developments in the telecom sector in rural and remote areas through pilots and trials.
- 1.7. The Scheme shall be open for receiving applications (Product/Technology development/Pilots etc.) **from 1stOctober 2022.**



2. Objectives of the Scheme

The scheme is envisaged to bridge digital divide by developing and manufacturing the state-of-the-art technologies for rural and remote areas. The objectives are, inter alia, to:

- 2.1. promote Technology Ownership and indigenous Manufacturing (Atmanirbhar Bharat)
- 2.2. reduce import and open up export opportunities
- 2.3. proliferation of next generation Telecom technologies in Rural and Remote areas
- 2.4. creating a culture of Technology co-creation and co-innovation
- 2.5. promote the ecosystem for research, design, prototyping, development, proof of concept testing, IPR creation, field testing, security, certification and manufacturing of telecom products, end-to-end Solutions, Usecases, Pilots, inter alia;
- 2.6. develop and establish relevant standards to meet national requirements and enable their standardization in international standardization bodies;
- 2.7. promote rural-specific communication technology application / use case development that caters to the needs of rural masses and adds value to their day-to-day activities both economic and social;
- 2.8. create synergies among the Academia, Research Institutes, Start-ups and Industry for capacity building and development of telecom ecosystem through outreach to build rural / remote areas relevant technologies and solutions;
- 2.9. bridge the gap between R&D and commercialization of products and solutions;
- 2.10. enable proliferation of affordable broadband and mobile services;
- 2.11. enable technology demonstration, product integration, pilots and field trials of the products and solutions; Enable Technological / business model innovation in solutions and services by utilizing existing infrastructure of USOF/DoT/GoI funded projects; or
- 2.12. commercialize developed technologies under the scheme. USOF schemes shall incorporate necessary provisions to ensure to enable rollout of these indigenously developed and piloted technologies developed in all its models.



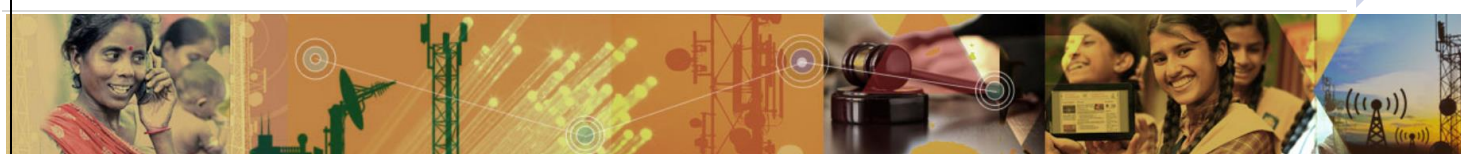
INCUBATION
SUPPORT

MENTORING

PILOTS

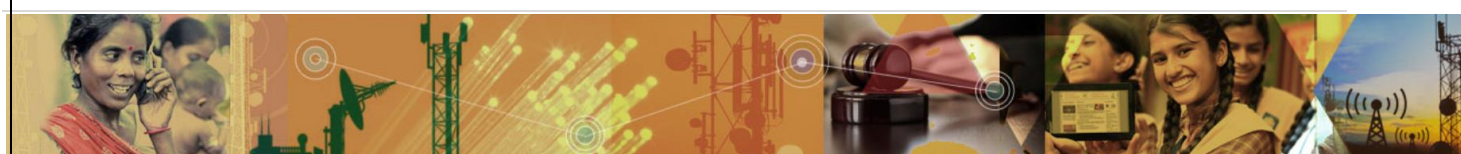
STANDARDIZATION

IPR FACILITATION



3. Definitions

- 3.1. Applicant for the purpose of the Scheme is a legal entity including Private Company, Society, Section 8 Company, Academia, Research Institution etc., making an application (for Product/Technology development/Pilots etc.) seeking fiscal support under the Scheme.
- 3.2. Domestic Company is defined as those which are owned by resident Indian citizens as defined in the FDI Circular of 2017. A company is considered as 'Owned' by resident Indian citizens if more than 50% of the capital in it is beneficially owned by resident Indian citizens and / or Indian companies, which are ultimately owned and controlled by resident Indian citizens. Further, it should be a DSIR recognized entity holding IPR ownership in India and carrying out R&D activities in India.
- 3.3. Eligible Expenditure under the scheme is elaborated under Section 5 below.
- 3.4. Intellectual Property Rights (IPRs) include patents, Trademarks, registered designs, copyrights and layout design of integrated circuits. They may be in filing stage or granted.
- 3.5. MSME shall be defined as per the Gazette Notification by Ministry of Micro, Small and Medium Enterprises, dated 1st June 2020 or extant norms.
- 3.6. Startup shall be defined as per the DPIIT notification dated 19th February 2019 or extant norms.
- 3.7. Successor-in-Interest shall mean the new or re-organized entity formed after the merger, demerger, acquisition, transfer of business or significant change in ownership of an applicant.
- 3.8. Technology Domains: Hardware, Software, Solutions, Usecases development, Pilots in Telecom sector. Specific product domains, inter alia, are elaborated under Section 4.
- 3.9. TRL Level: Technology Readiness Levels (TRL), as per global standards, are a type of measurement system used to assess the maturity level of a particular technology (originally introduced by NASA), a widely accepted technical maturity metric by National and Global Science & Technology community.

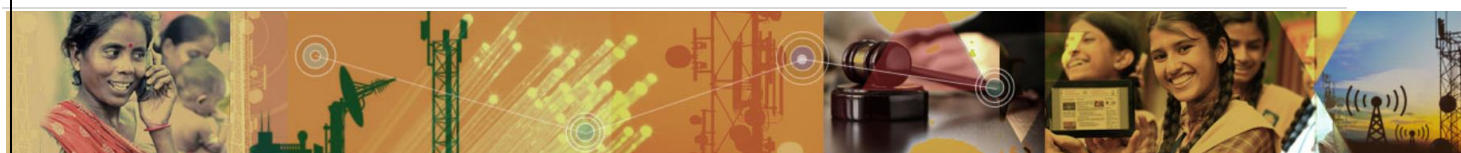


4. Technology Domains

- 5G development under 'India 5G Stack'
- 6G & Beyond technology development
- IoT & one M2M development
- Other Telecom Technologies under various research program
- Entrepreneurship Cell (for early-stage Start-ups)
- Research Scholarship program

The Scheme will focus on the following areas, among others, to enable telecom services affordable and widespread in rural and remote areas:

- 4.1. LTE Advanced, 5G, 6G and beyond future generation access technologies, Satellite technologies including VSAT, LEO/MEO etc., Software Defined Networks (SDNs) and Network Function Virtualization (NFV), IOT/ M2M, Communication Cloud and data analytics, Edge Compute solutions;
- 4.2. Backhaul Radio, Optical and Communication technologies including Free Space Optics, Optical Transport, Antenna systems, Advanced Optical Access & Transport technologies
- 4.3. Core, aggregation and edge routers, Ethernet Switches, Soft switches, xDSL, modems, x-PON, Consumer Routers and Switches, Advance Packet Technologies, Edge computing, AI/ML based solutions, Cognitive Sciences, Block chain/Distributed ledger Technology based solutions and Analytics;
- 4.4. CPEs both terrestrial and satellite terminals, dongles / data cards, handsets, Wireless (Wi-Fi) Access Points & Controllers etc.;
- 4.5. Convergence of telecom, IT and broadcasting technologies; Vertical specific testbeds for R&D in the development & proliferation of use cases;
- 4.6. Telecommunication based Over-the-top (OTT) services as drivers for penetration of broadband services;
- 4.7. Green and energy efficient technologies / solutions for the telecom sector;
- 4.8. Products for effective disaster management in rural and remote areas, advanced disaster management Solutions;
- 4.9. Network Management / Orchestration Technologies, Cyber Security solutions to secure telecom networking infrastructure and user data protection, District level data centres to cater to rural computing requirements, advanced telecom Security, interception and analytics;
- 4.10. Communication modules and technologies for Drones and UAVs, Deep tech products and components such as SoC (System on Chip), Quantum Communications & Devices etc.;
- 4.11. Satellite Communications, Broadcasting solutions.



- 4.12. Any next generation rural broadband connectivity architecture that can increase rural connectivity at a lower cost than current solutions; and
- 4.13. Other technology areas (both hardware and software) and solutions considered relevant in the scope of the Scheme to achieve the stated objectives.

5. Eligible Expenditure items for the funding

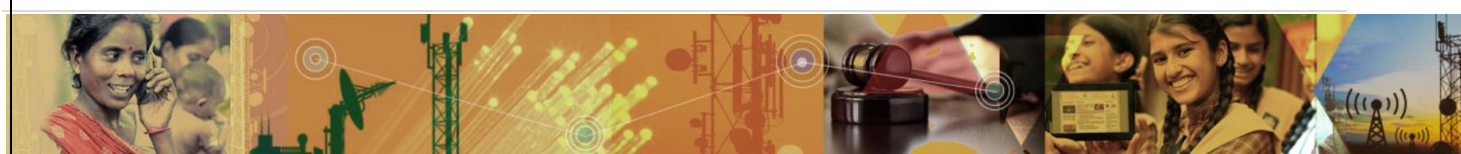
- 5.1. Research and Development, Commercialization (research, translation of research into technology/technology into solution viz. product / process / usecases) includes emoluments of scientific / technical manpower costs;
- 5.2. Expenditure incurred on procuring specialized capital equipment for R&D activities including Computers, Servers, Workstations, Networking Equipment, Testing Equipment, Testbed etc.;
- 5.3. Consumables, fabrication (within and outside India only when such facilities are not available in India) and manufacturing costs of R&D and prototypes;
- 5.4. Setting up and Operating costs for the R&D projects such as R&D environment, technology trials, field testing, Pilots, test lab charges, product integration;
- 5.5. IP Registration, Protection, Cost of studies;
- 5.6. Standardization of the products, services and standards participation;
- 5.7. Technology& engineering consulting and Technology Transfer Costs for obtaining “any ancillary IPs, Design licenses, background IPs, Industrial product design etc.” from Indian entities, if not available then from non-Indian entities;
- 5.8. Prototyping, Lab testing, test tools, Verification, Certification etc.; and
- 5.9. Other R&D costs and incidentals for the above activities.

(Expenditure towards items such as land, building shall not be part of the eligible expenditure for the funding; Further, every effort should be made to make use of available test infrastructure including testing tools, test and measurement equipment of academic and research institutions as feasible and practicable, as part of project proposals.)

6. Eligibility for Availing Incentives under the Scheme

The following Indian entities are only eligible for support from this fund.

- 6.1. Domestic Company(ies) with focus on telecom R&D, Usecase development;
- 6.2. Startups / MSMEs;
- 6.3. Academic institutions;
- 6.4. R&D institutions, Section 8 companies / Societies, Central & State government entities / PSUs /Autonomous Bodies/SPVs / Limited liability partnerships- with focus on telecom research and development;
- 6.5. Collaborative consortium of above entities;
- 6.6. For Pilots: The above entities may partner, inter alia, with PSUs, TSPs, Central/State Government entities, government autonomous bodies, SPVs etc.



7. Deliverables and Impact

Deliverables are in line with the objectives, scope and activities envisaged above. The impact of the Scheme would be measured in terms of:

- 7.1. Number of products, solutions, Use cases developed, commercialized and its market value;
- 7.2. Number of entities received educational order, culminating in getting full-fledged orders; and
- 7.3. Number of IPs generated and commercialized.

(The above is elaborated further under Clause 11 of Annexure 1 on success metrics of the program. Periodic reviews of approved applicants will be undertaken by the Implementation Agency with respect to project progress in R&D, Solution development, Pilots and value addition under the Scheme.

A third-party impact assessment at the end of 2nd year would be carried out to review the performance of the scheme and provide inputs for course correction as may be necessary.)

8. Policy on Knowhow, IPRs, Commercialization and Use

8.1. Indian Status

When an Indian Company receives a grant under the scheme, it is envisaged to retain its status as a 'Domestic Company' for a minimum period of two (2) years after completion of the project to enable percolation of public funded R&D benefits into the ecosystem.

8.2. Takeover by a foreign investor/company

If a foreign investor¹ or foreign Successor-in-Interest² wishes to acquire a majority stake, within the above two years period, the company can do so, by paying twice the grant principal amount received directly or through partnership with academia / research institution under the scheme.

8.3. Intellectual Property:

Intellectual property (IP) refers to creations of the mind, such as inventions; literary and artistic works; designs; and symbols, names and images used in commerce. IP is protected in law by way of patents, copyright, designs, trademarks and other forms, which enable people to gain recognition or financial benefit from their invention or creation.

- 8.3.1 Beneficiary / Collaborating partner should fill an intellectual property (IP) declaration worksheet declaring the intellectual property developed and owned by them (also

¹From countries excluding the countries sharing land borders with India. Investment rules for entities from land border countries are regulated as per the extant rules of Government of India.

² ibid



known as background IP) prior to availing the benefits under this policy. The applicant will retain all title, rights, duties in respect of any Background IP shall be limited to the creation of the joint product, for which applicant will receive revenue/benefits as per agreement entered among partners developing a joint product.

- 8.3.2 Any enhancement to the Background IP as part of the collaboration/system integration, the know-how in such enhancements, if done by the owner of background IP, and any IP vesting or accruing in such enhancements, shall vest exclusively with the applicant to whom such Background IP belongs to.
- 8.3.3 Implementing Agency (IA) and the collaborating partner(s) should consult each other before publishing any Foreground Information generated during the cooperative activities to ensure that no proprietary Information is released and the Foreground Intellectual Property Rights are not jeopardized. The collaborating partner shall inform if any IP has been generated as a result of collaborative work with IA.
- 8.3.4 IA and applicant shall confer and consult each other regarding preparing, filing, prosecuting, maintaining Intellectual Property Rights applications covering foreground Information and related expenditure. Expenses of filing and maintenance of IPR shall be borne jointly.
- 8.3.5 In case the collaborating partner is desirous of using IA's Intellectual Properties like patent, software code, copyright, design registration, etc. then it shall make such request in writing to IA. The terms and conditions for such IP licensing shall be decided mutually. Evaluation of intellectual Property, ownership of IPRs, decision on maintenance of IPRs, infringement and other terms and conditions will be done by IA and will be part of the agreement document.
- 8.3.6 All intellectual property jointly created, authored, discovered, invented, conceived or reduced to practice (foreground IP) during the course of collaborative research undertaken jointly with other partners shall be jointly owned among collaborating partners in that effort.
- 8.3.7 Evaluation of Intellectual property, ownership of IPRs, decision on maintenance of IPRs, infringement and other terms and conditions will be done by IA's IPR Group and will be governed as per the agreement.

8.4 IPR Sharing

IA will provide funding wherever required to fast-track product development. A flexible policy of sharing know-how, IPR and revenue sharing will be followed among collaborating partner(s) and IA as per the following scenarios.

8.4.1 Funding through Grant:

The know-how and IPRs generated by the beneficiary / collaborating partner(s) shall be fully owned by the beneficiary / partner (s). Funding percentage as part of the total project cost will be arrived based on verifiable account of books maintained for the purpose. The IPR and rights associated with it shall be agreed between the collaborating partners and USOF/ DoT before start of the product development. When a



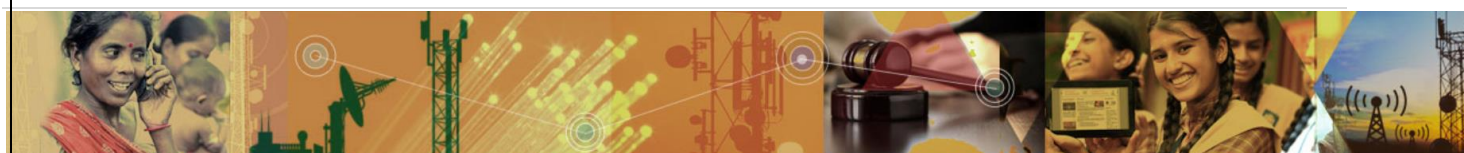
domestic company receives the funding through grant under this scheme, it is envisaged that it retains its domestic status for a period of minimum two years after completion of the project to enable the eco-system to utilize outcomes of R&D widely. If a collaborating partner's company gets acquired by a non- domestic company through a majority control, within a period of two years from completion of the project, DoT will also have the right to use the IPR developed through above funding, for realization of the product.

8.4.2 Grant to academic institution(s) / Government research institution(s):

The knowhow and IPRs (excluding the background IPs) generated out of the projects shall be owned by respective grantee institution(s). The knowhow and IPRs are licensable for further development and commercialization on non-exclusive basis at affordable cost, as would be defined by DoT, with the objective to enable proliferation of technology and use of the infrastructure created through funding. In case the grantee institution could not license the 'knowhow / IPRs' for 'commercializing / further development of the technology' within a period of 2 years from the time of completing the project, the grantee institution shall make available the knowhow / IPRs in public domain for use by Domestic companies/Indian academic and Research institutions. Further, DoT reserves the right to commercialize / further develop the knowhow / IPRs/ effective and efficient use of infrastructure created, through C-DOT or any authorized agency, without any additional cost, even during the first two years after completing the project.

8.5 Access to the technologies funded from the scheme to protect national interest

- 8.5.1 Sharing modalities of the knowhow and intellectual property rights generated out of the project shall be agreed between the participating grantee entities before the start of the project and entities will make all efforts to protect intellectual property generated out of the project.
- 8.5.2 The grantee entities shall submit a periodic report to USOF/ DoT for a period of minimum two years on 'working / commercialization' status of IPRs under the project after the project closure.
- 8.5.3 In exceptional cases such as during the times of emergency, enabling proliferation of technology or protecting of national interest or when required in public interest, USOF/ DoT reserves the right to use the knowhow / IPRs / infrastructure developed in all above cases (8.4.1. to 8.4.2) through any USOF/ DoT authorized agency in accordance with the terms and conditions of the funding agreement. The grantee(s) shall make available the background IPRs, as may be necessary for the technology, on FRAND terms.
- 8.5.4 As the R&D is supported by public fund, the grantee shall ensure that the interests of India and its citizens are fully protected, while licensing of knowhow / IPRs / transfer or commercialization of technology.



8.6 Indemnification

USOF/ DoT or its authorized agency shall not be responsible and shall not accept any liability for infringement, innocent or otherwise, by the grantee of the intellectual Property Rights of third parties. The Grantee should indemnify USOF/ DoT or its authorized agency from any legal and/or financial encumbrance arising out of any infringement of IPR/ licensing of IPR/ technology transfer/ commercialization.

9. Budgetary Outlay

- 9.1 5% of annual collections from USOF, or any amount that may be decided by the government from time to time, would be allocated for the purpose.
- 9.2 In order to enhance funding under the scheme, other sources and mechanisms would be explored further.

10. Funding Modalities

The following are the different funding modes available under the scheme. However, the entities are eligible to apply for funding from different resources both public or private for different products / technologies / solutions or for different deliverables in the development of same technology. The details of other funding (availed / applied) shall be indicated in the application form. The TRL levels mentioned are **indicative** to ensure relevant ground work has been carried out by entities for a successful outcome.

10.1. Grant in aid

- 10.1.1. The grant is envisaged to service funding requirements for small to medium projects in the development of technology(ies) / product(s) / research, solution(s), usecases, usecase lab(s), integrated proposal(s) with focus on end-to-end solution(s) or pilot(s);
- 10.1.2. It is aimed to service technology / product / solution development, pilot activity in TRL levels 3-7 with the objective to take it to TRL level 7-9, as part of the roadmap, as the case may be. In TRL level 3, analytical and experimental critical functions should have been achieved with or without proof of concept;
- 10.1.3. In the case of research project(s), the research should have reached at least TRL level-2;
- 10.1.4. In the case of applications for next generation products, the applicant(s) should have at least achieved TRL level 6-7 in the previous generation product(s) or should provide details on capabilities at least in TRL 3 for proposed products / solution;
- 10.1.5. In the case of funding for communication SoCs and Chipsets, TRL levels would be defined separately as part of funding agreement.



10.2 Project Period

Project timelines are generally up to two years. However, it may be decided project-wise in consultation with the applicant as per the terms and conditions of the agreement. Extension of six months each at a time may be granted at the sole discretion of USOF/DoT.

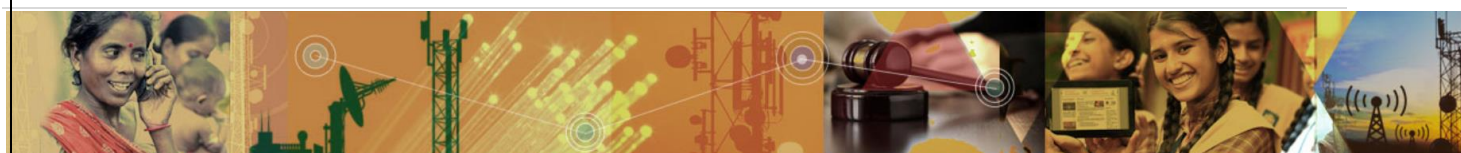
The engagement shall terminate by operation of law and without demand, upon first occurrence of one or more of the following events:

- (i) Mutual written agreement of the parties to terminate the engagement
- (ii) Completion of two years (if no further extension is granted) from the effective date of the engagement unless otherwise agreed by the parties to extend it beyond the expiry date for a term (six months)
- (iii) Any breach or violation of any agreement or terms of contract
- (iv) Underperformance in terms of agreed outcome
- (v) When the company enters into an acquisition, merger or amalgamation or reorganization deal resulting in a substantial change in the profile of the company from domestic to non-domestic status.
- (vi) Any other reason for which IA may find it necessary for the partnership to cease. Such reason/s shall be communicated to the partner.

11. Indicative Evaluation Criteria:

The indicative evaluation criteria for applicants under the Scheme are as follows:

S. No.	Criteria	Details	Indicative Weightage (%)
1	Technical Feasibility	Feasibility & reasonability of the technical claims, methodology used/to be used for validation, roadmap for technology development/Pilot readiness	15
2	Potential Impact	Market size, Opportunity and Technology impact on target segment of consumers	15
3	End-to-end solution	Proposal provides an integrated solution with a potential for import substitution	10
4	Novelty	Degree of indigenous technology development; IP(s) associated with the technology; National importance (if any)	25
5	Commercialization Strategy	Utilization of technology to create a product/service; Its positioning & value addition for the intended customers; Plan to go-to-market; Challenges addressed	20
6	Team	Technical & business expertise with demonstrated competencies	15
Cyber Security has to be a very important focus area. All solutions proposed should have focus on how they are cyber secure.			
Total			100%



Selected beneficiaries may be offered funding over a period of maximum two years in installments against agreed milestones.

12. Milestone based Fund releases

12.1 Fund will be released into a dedicated no lien account created by the beneficiary for the purpose of this scheme. Successful applicants will be offered milestone-based funding (to be elaborated as part of the funding agreement project-wise) and may be generally released in 4 installments:

Installment	Milestone*	Release
1st Installment	Signing of Contract	15% of Total Grant
2nd Installment	Completion of 1st Milestone	30% of Total Grant
3rd Installment	Completion of 2nd Milestone	30% of Total Grant
4th Installment	Completion of project & submission of final report with prototype/product (focusing on Technology Completion of the project and outcome could be a Technical Success or Failure)	25% of Total Grant

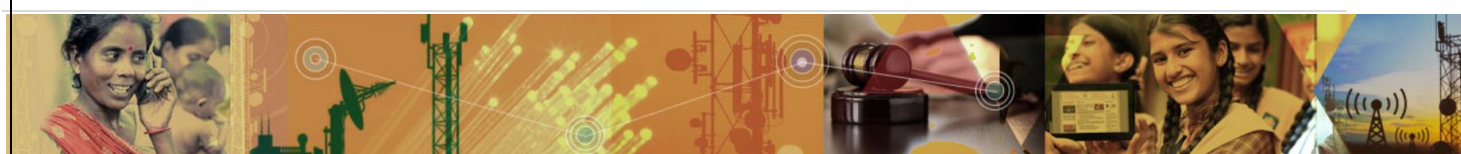
**Additional milestones or an enhanced % of grant could be indicated as part of the project proposal as may be necessary based on special requirements if any for the consideration of Administrative Committee.*

12.2 Timelines for milestones of the project shall be decided between the beneficiary and IA after due-diligence approval.

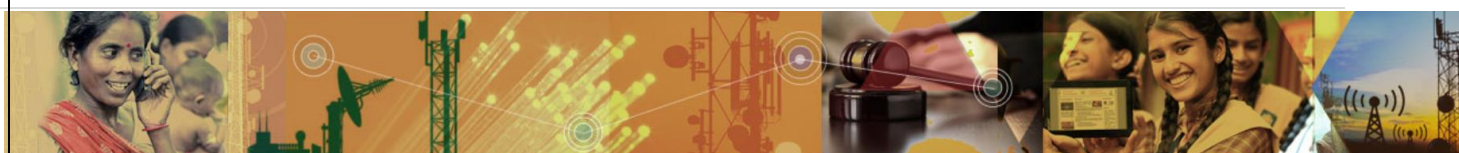
13. Residual

13.1 Notwithstanding anything contained in the guidelines and terms & conditions, any changes/deviation may be made in the guidelines, and terms & conditions with the approval of Secretary (Telecom), DoT from time to time to achieve the objectives of the scheme.

13.2 Any deviation with respect to approved eligible expenditure, after approval of the project, shall be intimated by the Implementation Agency to USOF/ DoT. In case of reduction of the eligible expenditure, the Implementation Agency will give the revised approval to the applicant. In case of escalation of the eligible expenditure, the Implementation Agency will seek approval of the Administrative Committee. Based on the approval, it shall communicate the revised approval.

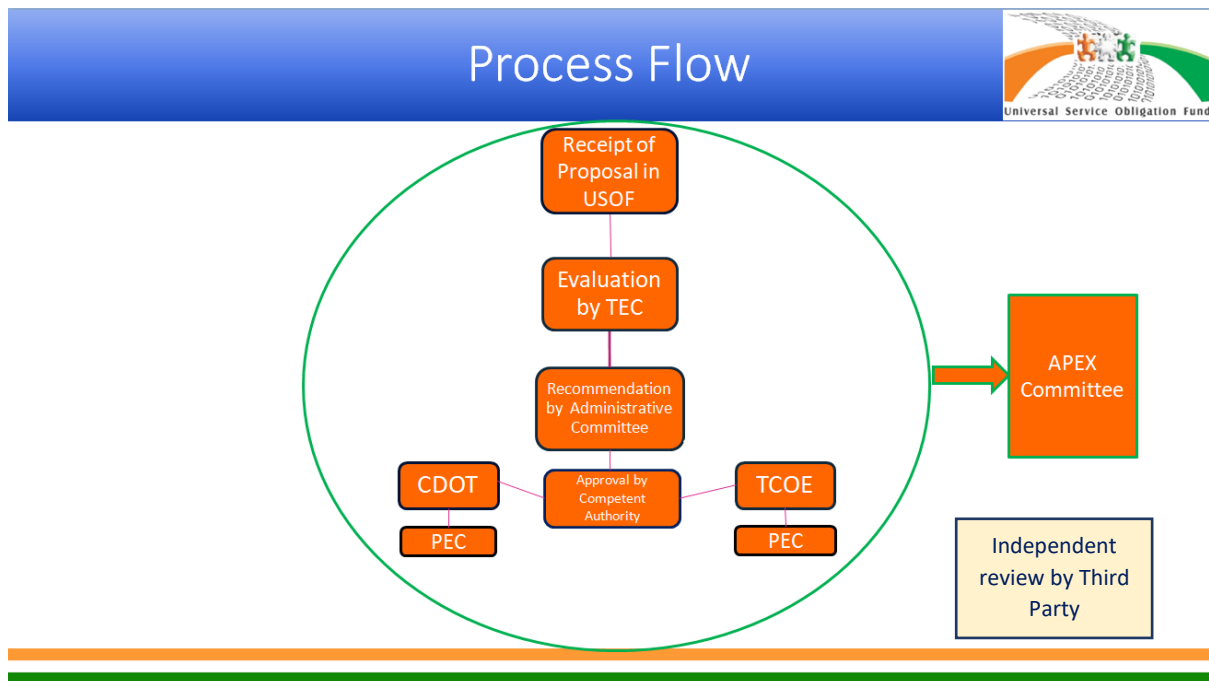


- 13.3 To obviate any malpractices in the financial matters where disbursements are made to industry by the Government, it has been decided to provide a deterrent against corrupt practices for promotion of transparency and equity. Therefore, keeping in view the sensitivities involved in the process and taking cue from the instructions of the Central Vigilance Commission regarding adoption of an Integrity Pact in the matter of procurement, the Implementation Agency shall obtain undertaking(s) from applicants under the Scheme.
- 13.4 Facilitating relevant mentorship for Startups and SMEs from the R&D ecosystem is considered as one of the key areas to strengthen R&D capabilities. The selected applicants under the scheme shall nominate one or more members from their technical and strategy teams to mentor other Startups and SMEs as may be prescribed by USOF/ DoT / IA.
- 13.5 Entities are encouraged to collaborate with other domestic companies, academia, R&D institutions etc., as may be necessary while executing the project at any stage.
- 13.6 Supplementary guidelines may be issued from time to time with the approval of competent authority for the smooth implementation of the Scheme.
- 13.7 Applications will be invited preferably once in every six months.
- 13.8 The Administrative Committee may relax / review the terms and conditions of the funding agreement or / and waive off the obligations of the beneficiary either partially or fully, due to any valid reason recommended by the Technical Expert Committee of IA, as it may deem fit.
- 13.9 Any dispute, arising out of the implementation of these guidelines, would be resolved as per the respective provisions of the funding agreement.



Implementation Guidelines

1. Implementation Mechanism:



2. Application Procedure:

- 2.1. Online Application Submission, Project Status Tracking, Fund Releases, Monitoring/Mentoring, Database of Digital Communication Technology companies, Event Promotion, Partnership facilitation, Regulatory Information etc., will be done through a dedicated website.
- 2.2. Projects of interest to national needs will be put up on the website by USOF/DoT as call for proposal where universities/research institutions/ industry /startups etc. can participate.
- 2.3. Universities/Research institutions /industry/ startups etc. based on its current research activities and capability in the field of telecom and security can also propose to undertake researches which are of significant importance in the development of current or future technologies.



3. Project Management Unit (PMU):

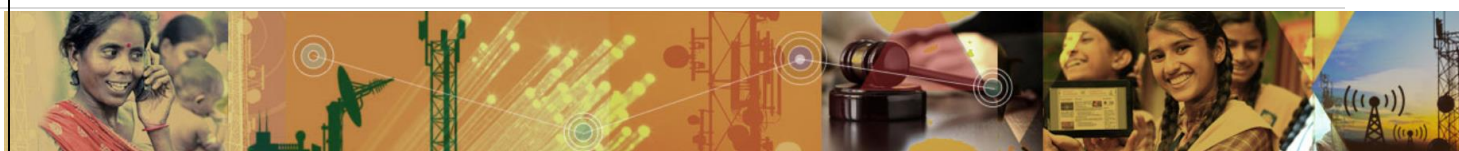
- 3.1. A Project Management Unit (PMU) will function in USOF for receiving all the proposals either in response to a call for proposal or otherwise.
- 3.2. The PMU will also discharge other administrative functions like screening of applications, forwarding the applications to Technical Evaluation Committee (TEC), getting the approval of the project from Administrative Committee and further forwarding the proposals to TCOE/C-DOT for implementation.
- 3.3. PMU will also coordinate on fund disbursement, milestone monitoring etc. It will also coordinate with APEX committee for bi-annually review of the entire scheme.

4. Technical Evaluation Committee (TEC):

- 4.1. After receipt of the proposals, following Technical Evaluation Committee shall carry out detailed evaluation of the proposals. The Technical Evaluation Committee will be headed by an independent domain expert in the relevant field. For this purpose a panel of experts will be formed and the chairperson of the Technical Evaluation Committee will be nominated by Secretary (Telecom).

i.	Independent Domain Expert	Chairperson
ii.	ED, C-DOT	Member
iii.	DDG(SRI), DoT	Member
iv.	DDG(Concerning area of proposal), Telecommunication Engineering Centre	Member
v.	Representative from Domestic Technology Organisation/ Industry /Academia	Member
vi.	Director, USOF	Member-Convener
vii.	Any other member to be co-opted by Chairperson	Member

- 4.2. TEC will select the beneficiaries, recommend release of grants / continuity/ extension/short- close, periodically steer and review the technical and financial progress of the Scheme etc.
- 4.3. Due diligence of beneficiaries will be carried out by TEC before selection. The due diligence process involves: -
 - Reconfirming eligibility; Clear arrangement among partners on funding distribution, IPR sharing, details of due diligence by the lead partner especially in identifying and selecting other partners;
 - Legal, technical & financial due diligence;

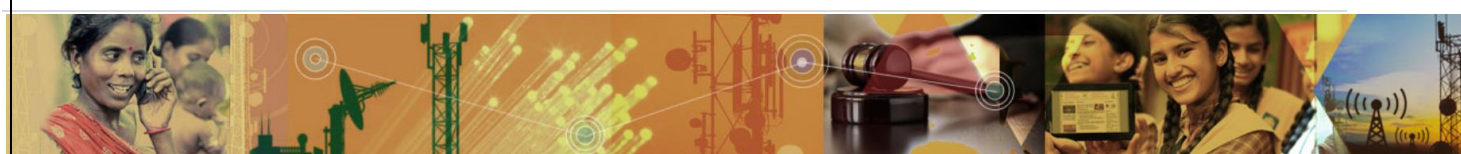


- Confirming how an applicant has tied up all resources: space, equipment, manpower, advisors, incubation services, equipment, partners etc.;
 - Budget utilization plan (usually by providing quotations), other requirements, if any; and
 - Finalization of milestones, budget and payment schedule; defining clear milestone targets that are easy to track.
- 4.4. All applications (Product/Technology Development/Pilots/Use case labs etc.) will be initially scrutinized for the eligibility check and completeness by the Technical Evaluation Committee.
- 4.5. Eligible applicants will be shortlisted by the Technical Evaluation Committee. Shortlisted applicants will be called to give a detailed presentation to showcase their idea/product/solution/Research/Proposal to the Technical Evaluation Committee.
- 4.6. Recommended applicants by the Technical Evaluation Committee will undergo due-diligence process as stipulated at Para 4.3. After due diligence, final grant proposal will be presented to the Administrative Committee for approval.
- 4.7. Technical Evaluation Committee, in its report will also work out certain percentage of total grant as a fixed funding commitment from the applicant.
- 4.8. Technical Evaluation Committee will also finalise the document for “Call for Proposals”.

5. Administrative Committee:

- 5.1. The report of Technical Evaluation Committee will be placed before Administrative Committee for further examination. The Administrative Committee, after examining the report of Technical Evaluation Committee, will arrive at its recommendations which will be placed before Competent Authority for approval. The composition of the Administrative Committee will be as below:

i.	Additional Secretary(Telecom), DOT	Chairperson
ii.	Joint Secretary(Telecom), DOT	Member
iii.	One member each from Industry, Academia and VC to be opted by Chair	Member
iv.	Advisor(Fin), DOT	Member
v.	Advisor(Technology), DOT	Member
vi.	Representative from NITI Aayog	Member
vii.	Representative from Ministry of Electronics and IT	Member
viii.	Executive Director, C-DOT	Member
ix.	DDG(IC), DoT	Member



x.	DDG (SRI), DoT	Member
xi.	Any other representative(s) from Central Government Ministry/ Department/ Organization may be co-opted with the approval of Chairperson	Member
xii.	DDG(USOF)	Member-Convener

5.2. The Administrative Committee will also recommend the Implementing Agency for each project between TCOE and C-DOT.

5.3. Administrator, USOF will place the recommendations of the Administrative Committee before Competent Authority for approval.

6. Implementing Agencies (IAs):

6.1. TCOE India and C-DOT (here onward called Implementation Agency – IA) will implement the Scheme on behalf of USOF/DoT as per respective funding limits as given below:

6.1.1 C-DOT shall implement the following projects:

- (i) Technology intensive projects which are generally at least at TRL – 3 level.
- (ii) The projects with funding requirement generally of more than Rs. 10 Crore.

6.1.2 TCOE shall implement the following projects:

- (i) The projects which are generally at TRL - 1 and TRL - 2
- (ii) Interactions with Start Ups, Universities, Academia etc
- (iii) Projects with funding requirement of upto Rs. 10 Crore.

6.2. Based on the approval of the Administrative Committee, the detailed MOUs/agreements will be signed between the beneficiary(ies) and IA. The MOUs/agreements shall clearly mention all the deliverables, payment terms and other terms & conditions under the broad guidelines mentioned herein and specific terms & conditions approved by Administrative committee.

6.3. Project Execution Committee (PEC) shall work under each IA to closely monitor and steer the projects as per the MOUs/Agreements entered.

6.4. Beneficiary (ies) will submit periodic reports and utilization certificates in the prescribed format to IA.



- 6.5. IA will facilitate coaching / mentoring the project during project completion and two years post completion through its expert panel.
- 6.6. IA will facilitate beneficiaries in piloting, testing and public procurement.
- 6.7. IA will ensure timely and proper implementation of the project without time and cost over runs.
- 6.8. The IA shall ensure that the PEC meets as frequently as required but at least once in every quarter. IA will submit its report duly signed by the Head of the IA to USOF/DoT. This report will be used to review the progress of utilization of the funds released and will also be taken into account while considering further release of funds by the department.
- 6.9. The detailed responsibilities of IA are mentioned at Annexure-2 of these guidelines.

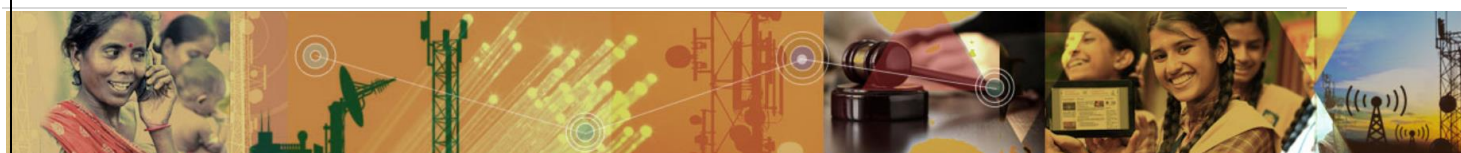
7. APEX Committee:

- 7.1. All R&D projects under these guidelines shall be reviewed bi-annually by the following Apex Committee:

i.	Secretary (Telecom), DoT	Chairperson
ii.	Additional Secretary (Telecom), DoT	Member
iii.	Administrator, USOF, DoT	Member
iv.	Member (Technology), DCC	Member
v.	Member (Finance), DCC	Member
vi.	Sr. DDG, TEC	Member
Vii.	DDG (IC), DoT	Member
viii.	DDG (SRI), DoT	Member
ix.	JS Level Representative from NITI Aayog, DRDO & DST	Member
x.	JS level Representative from Ministry of Electronics & IT	Member
xi.	Executive Director, C-DoT	Members
xii.	Any other JS level representative (s) from Central Government Ministry /Department /Organisation may be co-opted with the approval of Chairperson.	Members
xiii	DDG, USOF	Member-Convener
xiv	Chairman may co-opt any other members as may be necessary	Member

- 7.2. The APEX committee will also suggest:

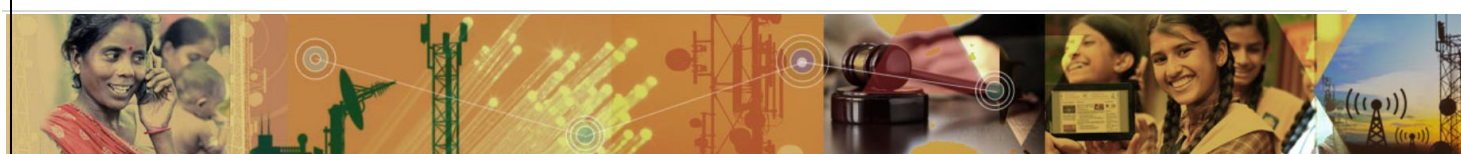
- (i) Any course correction required in any project,



- (ii) Identification of new technology areas for the R&D,
- (iii) Modification in the existing guidelines or any issue which they deemed fit required for the smooth operation of the R&D fund of the USOF.
- (iv) On-boarding of independent international experts for best practices in implementation of these guidelines.
- (v) Report of the impact assessment of the project(s) will be submitted before the Apex Committee for their perusal.

8. Fund disbursement

- 8.1. A funding agreement will be signed between IA and successful applicant(s). The rights and responsibilities under the agreement may not otherwise be assigned by one party without the prior consent of the other party, which shall not be unreasonably withheld. A party may not be permitted to enter into transactions that result in a change of control without the prior consent of the other party, which again shall not be unreasonably withheld.
- 8.2. Fund will be released into a dedicated no lien account created by the successful applicants for the purpose of this Scheme.
- 8.3. Fund disbursement will commence against the milestones of the project as stipulated in the MOUs/agreement.
- 8.4. Beneficiary (ies) will submit periodic reports and utilization certificates in the prescribed format to IA.
- 8.5. The funds shall be released to the IA for further release to beneficiaries based on the recommendation of IA.
- 8.6. The 1st installment will be released after approval is accorded to the project by the MOU/Agreement has been signed between beneficiary (ies) and IA. Further installments may be released based on the achievements of the set milestones and recommendation / ratification of IA.
- 8.7. Release of further installments shall be subject to furnishing of complete Utilization Certificate, report of the IA recommending the release and the proof of matching contribution of the funds having been invested by the IA from its own or other sources as per the approved cost sharing.
- 8.8. Upon approval of projects by the Administrative Committee, IA would communicate to the successful applicant and initiate the funding process.



- 8.9. First installment of payment to be made available to successful applicants within three weeks.
- 8.10. IA will maintain a separate bank account for all activities related to the Scheme.
- 8.11. IA will submit Statement of Expenditure (SE) on annual basis during beginning of the Financial Year for preceding year.
- 8.12. IA will submit a half-yearly progress report of fund disbursements in the month of April and October for preceding 6 months.
- 8.13. USOF/DoT and IA will conduct an annual review of fund disbursement, other activities and deliverables to gauge output, and to approve activities for the forthcoming year.
- 8.14. To facilitate ease of doing R&D especially for Startups and MSMEs, for the release of installments or advances at respective milestones, in lieu of any collateral or bank guarantee, an undertaking may be taken from the promoters as per the terms and conditions of the agreement. Further, R&D is a complex process, the conditions applicable for a general contract such as liquidated damages etc., would not generally be applicable and every effort would be made to enable and nurture the technology development taking note of challenges in the highly competitive telecom technology R&D.

9. Administrative Expenses of IA:

The administrative expenses for program are up to Rs. 200 Lakh. per year, broadly under the sub category as below:

Break of item of Expenditure (in Rs.Lakh)	1 st year	2 nd year	3 rd year	4 th year	5 th year
Program Manpower	100	100	100	100	100
Online Module Development, Maintenance etc.	15	15	15	15	15
Event, Promotion, Outreach, Marketing etc.	9	9	9	9	9
Project Evaluation, Due-diligence, Honorarium, Mentors, Pre-Post Funding management, Project Tracking etc.	55	55	55	55	55
Travel, Accommodation, Per-diem etc.	9	9	9	9	9
Office Establishment (Capex + Opex)	9	9	9	9	9
Program Overhead (10%)	3	3	3	3	3
Program Administrative Expenses	200	200	200	200	200



Appropriation between the heads may be done by the IA based on the requirements under intimation to DoT. *Indicatively Rs. 50 Lakhs for TCOE; Rs. 1.5 Cr for C-DOT. Quantum of administrative expenses and its distribution may be revised as may be necessary (individual components in the same proportion)*

10. Assistance and Support

10.1. Incubation / Mentoring Support

Selected entity will be provided mentorship or incubation support and technical advisory support during entire project development period and additionally for two years from the date of Technical Completion, by a Facilitation & Mentorship Team under the IA Team along with panel of Experts consisting of Technical, Financial, Market Development, Legal & Compliance etc. The objective of this coaching/mentorship is to create success stories in the digital communication space by offering focused and detailed support individually to each selected projects. This incubation support shall be provided by the Scheme by Incubator Partners, Industry Partners, Telecom innovation hubs etc. The existing infrastructures of incubators/accelerators of other ministries/department viz. DST, MeitY etc., including DoT's CPSUs, C-DOT and its funded CoEs may be tied- up for providing incubation and mentoring support under this Scheme.

10.2. Scope of Services of Incubators / Mentoring

Each incubator will handhold startups with offerings including,

- a) **Advisory:** Strategic support for scaling up of operations & expansion in new geographies, and product building & enhancement.
- b) **Network:** Reach out to relevant individuals/entities to enable R&D, specialized mentorship, partnerships, marketing, etc.
- c) **Tapping Resources:** Enable startup's participation in grand challenges, Government Schemes, incubation/acceleration programs, relevant events, etc.
- d) **Pilots:** Enabling pilots with corporate, Government, universities, etc.
- e) **Business Plan:** Guidance on raising capital
- f) **Funding Raising:** Startup can raise the fund from various sources depending on the nature of business, viz Grant from other Ministry/Dept, Conditional Grant, Award, Soft Loan, Loan etc.

11. Success Metrics for the Program

This section further elaborates the indicative parameters to assess the impact mentioned under Section 7 of the main body of the scheme.

- a) Market ready Technologies, products, solutions, usecases created;



- b) Usecase testbeds
- c) Degree of commercialization (including educational and commercial orders received) and extent of market value;
- d) Successful completion of pilots;
- e) IPRs generated through funding;
- f) Jobs created;
- g) Deployment in the market;
- h) Expansion of startup and MSME into new geographies;
- i) Growth in user base/clientele of startups and MSME;
- j) Growth in entities revenues;
- k) Capital raised (equity/debt/grant), as required;
- l) Feedback of applicants; and
- m) Any other metrics as may be relevant.

12. Pilot facilitation for the products / technologies developed

12.1. Facilitation of pilots is part of R&D facilitation to test the products in real field conditions as part of the network or in standalone conditions. Apart from facilitating funding of pilots for such applicants who approach with already developed technologies / products, piloting opportunity would also be extended for the developed products/ technologies under the scheme. For this, DoT along with USOF, ITI, BSNL, C-DOT, TCIL etc. shall take a proactive approach in establishing regulatory sandboxes, facilitating allocation of spectrum for R&D and experimentation at affordable prices, simplifying and fast-tracking approvals for experimental purposes for the shortlisted teams.

12.2. The pilot opportunities for the beneficiaries of the scheme (who are the recipients of funding for the development of product / technology) will be provided in the below manner,

- a) Any beneficiary of the scheme desirous of availing the opportunity for pilot, shall be required to submit a detailed proposal outlining their requirements, scope of work, location for the pilot, timelines, potential impact, success metrics, etc.
- b) This proposal will be presented to the TEC for review & inputs and subsequently to Administrative Committee for the approval. Subsequent to the approval, the Pilot project will be handed over to one of the IAs.
- c) TEC or a team identified for the purpose shall hold a one-on-one meeting with each interested team to discuss the proposal and finalize requirements.
- d) USOF, ITI, BSNL, BBNL, C-DOT, TCIL can provide inputs to the TEC for evaluation and provide pilot opportunities to the shortlisted entities. Support from these organizations may be provided to shortlisted entities for at least 3 months to help them fine-tune their products and services as may be necessary.



12.3. In the case of applications seeking funding for carrying out the pilots / trials for the already developed products / technologies, the process is same as the process elaborated above.

12.4. All finalized proposals will be presented to a panel of Corporate from Digital Communications space on a 'Demo Day'.

12.5. The IA may facilitate all experimental licenses and other resources within 30 days of proposal review.

13. Procurement Opportunity

IA shall take all necessary measures to enable that products/ services developed by startups/MSME enterprise funded under the Scheme, find market and become financially viable over a period of time. DoT shall try to work with PSUs for getting them educational orders and also make available and work with them for technology trials. As per the Public Procurement Policy of Ministry of MSMEs, every Central Ministry/Department/PSU shall set an annual goal of minimum 25 per cent of the total annual purchases from the products or services produced or rendered by MSEs. DoT may sensitize the concerned agencies about the products/services developed by startups/MSMEs and request for consideration of their proposals, submitted i.r.o. their tenders, as per due rules and procedures.

Further, USOF schemes shall incorporate necessary provisions to ensure to enable rollout of these indigenously developed and piloted technologies in all its schemes with different models.

14. Review & Evaluation

14.1. The Scheme would also be subject to mid-term review for its efficacy by an independent third party engaged by DoT for this purpose.

14.2. A third-party impact assessment at the end of 2nd year would be carried out to review the performance of the scheme and provide inputs for course correction as may be necessary.

14.3. For the above purpose, expenditure up to a maximum of 0.2 % of the Scheme funds may be utilized.



Terms & Conditions for Implementation Agency

The fund is for a specific project as approved by Department of Telecommunications (DoT) subject to the conditions listed below. The IA and proposal originating entity(ies) shall give an undertaking that they agree to be governed by these conditions.

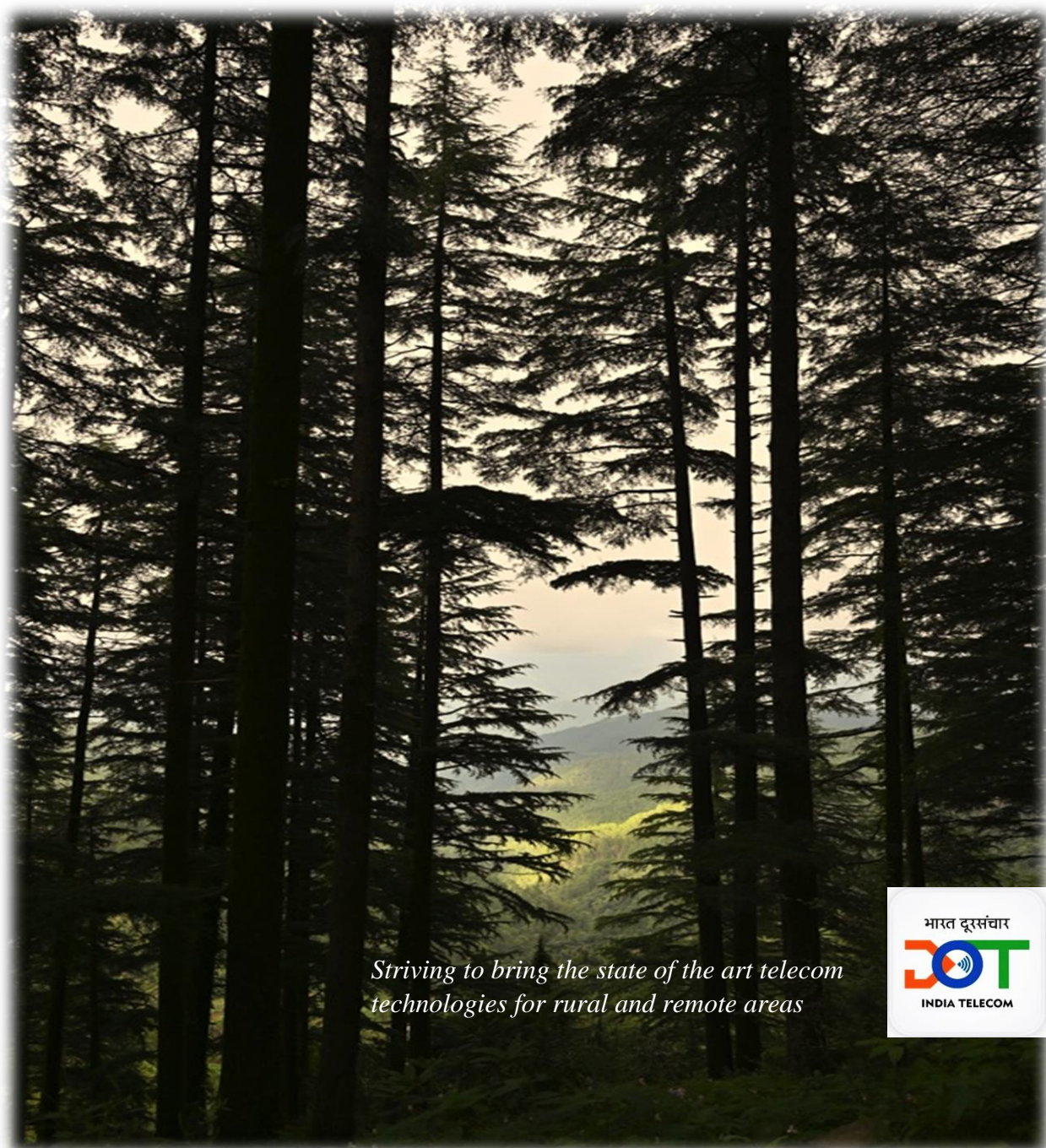
1. The fund amount shall be i) spent for the project within the specified time; and ii) any portion of the fund, which is not ultimately required for expenditure for the approved purposes, shall be duly surrendered to USOF/ DoT;
2. The IA should adhere to GFR guidelines, as applicable, while incurring expenditures out of USOF/DoT's portion of grant amount under the project. The IA shall be responsible for ensuring that all procurement of goods, equipment and services, including works, obtained through grant amount are through a transparent and competitive bidding process as per the applicable government rules / guidelines;
3. The IA shall maintain an audited record in the form of a register in the prescribed proforma for permanent, semi-permanent assets acquired as solely or mainly out of USOF/DoT's grant portion;
4. The assets referred to in (3) above will be property of USOF/ DoT and should not, without prior sanction of USOF/ DoT, be disposed of or encumbered or utilized for the purposes other than those for which the grant has been sanctioned;
5. In addition to the ownership of the facility created, preparation and approval of the DPR, the IA shall also be responsible for obtaining all necessary statutory approvals/clearances including those for environmental compliance and quality standards as applicable;
6. The IA shall furnish Utilization Certificate (UC) along with its request for next release of Grant in Aid certifying that the fund released to them for which UC has been furnished is as per the objective of the Scheme;
7. The IA shall render progress-cum-achievement reports at an interval of not exceeding six months on the progress made on all aspects of the project including expenditure incurred on various approved items during the period;
8. The IA shall render an audited statement of accounts to USOF/ DoT.
9. The audited statement of accounts relating to fund given during financial year together with the comments of the auditor regarding the observance of the conditions governing the grant should be forwarded to USOF/ DoT within six months following the end of the relevant financial year;



10. The utilization of fund for the intended purposes will be looked into by the Auditor of IA according to the directives issued by the Government of India from time to time and the specific mention about it will be made in the audit report;
11. USOF/ DoT or its nominee(s) will have the right of access to the books and accounts of the IA for which a reasonable prior notice would be given;
12. The IA should maintain separate audited account for the project. If it is found expedient to keep a part or whole of the fund in a bank account earning interest, the interest, thus earned should be reported to this department. All Interest against fund should be mandatorily remitted to the Consolidated Fund of India immediately after finalization of the accounts. Such advances should not be allowed to be adjusted against future releases;
13. The entity may retain the sale proceeds of prototypes, etc., fabricated as a result of the development of the project arising directly from funds granted by the department. It may use funds thus generated for furtherance of project objectives;
14. Application by IA for any other financial assistance or receipt of grant/ loan from any other Agency/ Ministry/ Department for this project should have the prior approval of USOF/ DoT;
15. The IA is not allowed to entrust the implementation of this project for which fund is received to another institution and to divert the fund received from USOF/ DoT as assistance to the later institution;
16. In case of any dispute on any matter, related to the project during the course of its implementation, the decision of the Secretary, DoT, shall be final and binding on the proposal originating industry/ industry consortium and grantee institute;
17. The financial assistance given under the Scheme shall be subject to audit by the CAG of India;
18. IA will submit a pre—receipt bill for the funds to be disbursed to it along with certificate that it has not indulged in corrupt practices.



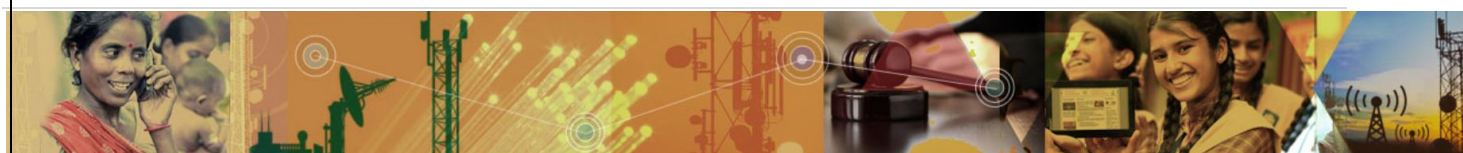




Striving to bring the state of the art telecom technologies for rural and remote areas



UNIVERSAL SERVICE OBLIGATION FUND



No. 1-USOFR&DFunding/2022-SRI
Government of India
Ministry of Communications
Department of Telecommunications
(Universal Service Obligation Fund)

Sanchar Bhawan, New Delhi

Dated, 14-08-2023

Subject: Addendum to Telecom Technology Development Guidelines.

Reference: TTDF Guidelines issued Dt. 01.10.2022

This is in respect of TTDF Guidelines referenced above, the para 12. "Milestone based Fund releases" of TTDF guidelines has been amended and appended following sub-paras afterwards to the existing paras. All other terms and conditions of TTDF guidelines will remain unchanged.

12.3 In special cases, below-mentioned break up for capital equipment may be approved by the Administrative committee. TEC should give an option to re-submit a separate milestone-based budget distribution on the basis of capital and non-capital to the applicant and make part of their report before submission to Administrative Committee:

Instalment	Milestone*	Release
1st Instalment	Signing of the purchase order for the capital equipment as per the PO timelines.	50% of Total Grant
2nd Instalment	Delivery of the equipment or as per the PO timelines.	30% of Total Grant
3rd Instalment	Commissioning of the equipment or as per the PO timelines.	10% of Total Grant
4th Instalment	After the expiry of warranty	10% of Total Grant

12.4 IA can further break each milestone with the defined scope of work in sub-milestones at their own level. For breaking the milestone into sub-milestones, no further approval is required by IA from USOF/ DoT.

12.5 At least 10% contribution has to be made by private applicants in the procurement of items under capital head.

2. This is issued with the approval of Hon'ble Union Minister of Communications, Government of India.

Signed by Shailendra

Sagar

Date: 14-08-2023 10:24:15

Director (IS-II)

Reason: Approved

TEI 011-28372434

Copy to:

1. PS to Hon'ble MoC
2. PS to Hon'ble MOSC
3. PSO to Secretary(T)
4. DDG(Media), for dissemination through social media platforms
5. DDG(IT), for wider circulation through DoT website