NPSP
सत्यमेव जयते
National Policy on Software Products

Digital India
Power To Empower

ICT Grand Challenge under National Policy on Software Products

सत्यमेव जयते
Ministry of Electronics and Information Technology
Government of India

एसटीपीआई
STPI

1. Introduction

Information and Communication Technology (ICT) refer to the literally infinite areas of scientific studies and techniques used in the handling of telecommunications; media management and broadcast; intelligent systems; data handling, processing, storage and transmission; network based solutions; as well as audio visual monitoring processes. ICT also have the potential to boost economic development in many ways, including: improved services to citizens through e-government projects, job creation in the creative and high-tech industries, additional trade flows, and opportunities for small producers from developing countries to link up to global value chains. Broadening digital access will bring even greater benefits for innovation, entrepreneurship, and job creation. This sector is vital to the economic development of both developing and developed countries. In 21st century, it is estimated that ICT contributes nearly one quarter of GDP growth in most developing countries.

Recently, the Indian IT Industry has shown signs of moving up the value chain with the mushrooming of a number of young entrepreneurs focusing on software products and are trying to exploit the possibilities that have arisen due to emerging of cloud infrastructure, alternate delivery models including off the self and SaaS (cloud) based Software Products and mobile based delivery model using social media platforms. This is further complimented by fast evolving use of Big Data, Internet of Things (IoT), Block Chain, Cloud resulting in the convergence of hardware with software.

A number of major initiatives have been taken by Government of India with regard to nurture the innovation and boost the software product ecosystem in country. Startup India is a flagship programme of the Government of India, intended to build a strong eco-system for nurturing innovation and startups in the country that will drive sustainable economic growth and generate large scale employment opportunities. Ministry of Electronics and Information Technology on its part is also implementing many schemes to boost tech-startups in India. Government has announced to establish numerous startups in next 5 years particularly in tech domain. Fin-tech startups are going to be one of the key constituents of this base.

It is well known that to address and solve the complex socio-economic challenges present in Indian ecosystem in the above-mentioned areas, many innovative, life changing, out of the box ideas are available in our society which are not fully recognised and facing difficulties in being involved in development projects at ground level. Therefore, there is a need to recognise, encourage and nurture ICT led tech innovations that could meet the Government objectives and also to address the social-economic challenges and lead to a sustentative business in the sectors.

COVID -19 has thrown unprecedented challenges for the world and industries alike. While we continue to fight these challenges as a nation, amidst business disruptions and remote working scenarios, it is important for all including

governments, industry and individuals to contribute with all its might to overcome the present and emerge stronger as humanity. To enable this, this ICTGC would be right step to identify and support solutions and ideas that can reduce the present pain and also contribute in fast recovery.

National Policy on Software Products has a provision to conducts at least 20 Grand Challenge so as to develop a variety of software products addressing socio-economic challenges.

2. Stakeholder of ICTGC

a) **MeitY**: Nodal Ministry of ICTGC
b) **Software Technology Park of Indian (STPI)**: Nodal agency of ICTGC
c) **Challenge implementing agency**: Challenge implementing agency will be identified by STPI in consultation with MeitY through open call for proposal as envisaged in Para 11.

3. Objective & Scope of ICTGC

The objective of ICTGC is to generate innovative technology/solutions in the form of software products using emerging technology so as to address the social economic challenges and have potential for mass market leading to greater access of the products in a cost-effective manner via appreciation of local milieu and language that rural/urban persons can understand and use in effective manner.

4. Eligibility Criteria, role & responsibility of Challenge implementing agency

To realise this vision on ground level, an ICT Grand Challenges (ICTGC) to be conducted by the following Challenge implementing agency:

- Registered Industry Associations
- Autonomous bodies/society, Section 8/25 companies/R&D organization/Institute of Higher Learning having a dedicated facility for research in Emerging technology and also having an incubation space for at least three years.

The implementing agency will be identified through open Call for Proposal process. Further, the followings would be the role and responsibility of implementing agency:

— Identification of problem statements including user agency;
— Collaboration with user agency and facilitate the field trial/demonstration;
— Run the challenges through MeitY Startup Hub (MSH) platform;
— Selection of proposals based on criteria defined in Para 6&7;

Each ICTGG will have one grand problem statement having multiple sub-challenges to be solved.

Implementing agency has to identify and on-board the Government organization or large corporate house as user agency for deploying the final solution (first market access for at least three years) addressing the problem statement. This user agency has to specify their requirements and provide technical support required by project teams for development and fine tuning of the products. Implementing agency has to sign an agreement with user agency to deploy the final developed product.

The challenge implementing agency may apply for more than one ICTGC.

5. Eligibility Criteria of problem solving participants

The Indian Tech start-ups and MSMEs as per National Policy on Software Products (NPSP) - 2019 and registered on Indian Software Product Registry (ISPR) can apply to solve the problem statement identified by Challenge implementing agency.

Proposals that develop and operate pilots or prototypes in real time in field to demonstrate the technology will be preferred.

6. Procedure and General Guidelines to be adopted by challenge implementing agency

The specific problem statement/(s) in the identified area, which are of national importance and have potential to impact masses and viable for Indian Market & Society has to be identified by challenge implementing agency in consultation with stakeholders. Subsequent to this, Challenge (problem statements) will be offered to talented and motivated professionals working in MSMEs & start-ups to provide solution in the form of detailed proposal through MeitY Startup Hub.

The challenge implementing agency has to define the problem statement clearly with a detailed background note in the form of text and video. The other concerned stakeholders of the problem statements such as intended user agency, targeted developers/manufacturers, concerned policy makers, incubators etc. need to be part of the ICTGC. The organizers (Challenge implementing agency) must have a methodology to showcase the dimensions of the problem statement to applicants through field visit / workshop / digital medium etc. Prior to release call for proposal by implementing agency, problem statements must be endorsed by the competent authority in MeitY.

Proposals to solve the identified challenges need to address the description of innovation, working concept, stage of development, deployment plan, long term strategy and self-sustainability model. The major segment of proposed solution against the offered problem statement must lie in the software product space and must be practically viable as per Indian conditions.

7. Governance Structure:

Proposals to solve the identified problems by implementing agency will be

judged based on the attributes such as novelty in innovation, potential societal impact, access and affordability to end users, sustainability, execution capability, market competition, obsolescence of technology, survival of industries etc. The following steps have to be adopted by the challenge implementing agency:

Blind Review: An expert panel from Academia, Government and Industry will evaluate the translation research proposals and will shortlist approximate 15 proposals in each ICTGC.

Stage – 1: Ideation: Shortlisted teams will be asked to make a presentation to Expert/Working Group*. Based on the recommendations of Expert/Working Group, 10 proposals in each ICTGC to be shortlisted to provide financial support of Rs. 7.5 Lakh to develop a working prototype of the proposed solution within two months duration (max).

*Expert Group/Working Group: consisting of experts from Academia, user agency, MeitY (two members), Industry etc. will be constituted for each problem statement.

Stage – 2: Prototype Stage: This is the critical phase of the Grand Innovation Challenge to build upon the idea and concept and develop the prototype of the solution. The teams would present their prototypes to Expert Group/Working Group to select top four (4) entries. Each selected team will receive INR 25 Lakh to build their solution following the design principles and best practices as per the need of the user agency within four months duration (max).

Products Building: Four winning teams of Stage-2 will get a chance of a lifetime to deploy a fully functioning product based on their working prototype at user agency. The prototype will be presented to Expert Group/Working Group and user agency. The solutions would be evaluated based on parameters that will include Innovation, Replicability, Scalability, Usability, Ease of deployment/roll-out, Potential risks involved in implementation of the solution.
The winning team with the best-judged solution will get a contract to deploy their solution for use by user agency for a period of 3 years.

All teams including the winning team shall be free to market the product to any entity outside the user agency with consent of user agency, if required.

Steering and Review Committee:
The Steering and Review Committee would be comprises members Academia, Industry, Government including two representative from MeitY from to provide technical guidance to project team members and periodical review & monitoring of the progress of the project. Based on the progress the Steering and Review Committee will recommend the release of fund by implementing agency.

8. Evaluation Parameters and quantifiable matrix to be adopted by the implanting agency

The ideas/ prototype/ final product will be judged on the following parameters

#	Parameter	Description
1	**Approach Towards Problem Solving**	Product Idea, Degree of Innovation, Simplicity of Final Solution, Uniqueness & scalability of Idea, Novelty of Approach,
2	**Business Use Case**	Business Case, USP and Vision
3	**Solution Technical Feasibility**	Product features, Scalability, Interoperability, enhancement & expansion, Underlying technology components & stack and futuristic orientation
4	**Product Roadmap**	Potential Cost to Build Product, Go to Market Strategy, Time to Market
5	**Team Ability & Culture**	Team Leader's Effectiveness (i.e. Ability to guide, Ability to present idea), Ability to Market Product, Growth Potential of Organization
6	**Addressable Market**	Natural Sales Appeal, Affordability, ROI, Sales Distribution Channel

- **Step I: First Level Quality Check & Review by Implementing agency Team**
  - Assess compliance to Eligibility Criteria of participating Teams
  - Assess quality and completeness of the responses provided in the respective nomination forms
- **Step II: Assessment & Screening by Blind Review committee**
  - Conduct Detailed Assessment of submitted ideas for shortlisting 15 proposal for presenting their idea to Working Group/Expert group based on following weightage.

#	Parameter	Weightages (Pre decided by Jury)	Score (to be provided by jury)	Weighted Score
1	**Approach Towards Problem Solving**	10%	S1	10%*S1
2	**Business Use Case**	20%	S2	20%*S2
3	**Solution Technical Feasibility**	15%	S3	15%*S3

4	**Roadmap of Deployment**	30%	S4	30%*S4
5	**Team Ability & Culture**	10%	S5	10%*S5
6	**Addressable Market**	15%	S6	15%*S6
Total Score				∑ (w*s)

- **Step III: Shortlisting Entries for Prototype development by Working Group/Expert group**
  - Conduct presentation and review prototypes submitted by all the 15 proposals
  - Score Submitted Ideas out of 100 on each Evaluation Parameter
  - Shortlist 10 proposal for Prototype/product development

#	Parameter	Weightages (Pre decided by Jury)	Score (to be provided by jury)	Weighted Score
1	**Approach Towards Problem Solving**	10%	S1	10%*S1
2	**Business Use Case**	10%	S2	10%*S2
3	**Solution Technical Feasibility**	10%	S3	10%*S3
4	**Roadmap Deployment**	10%	S4	10%*S4
5	**Team Ability & Culture**	10%	S5	10%*S5
6	**Addressable Market**	10%	S6	10%*S6
7	**Presentation**	40%	S7	40%*S7
Total Score				∑ (w*s)

- **Step IV: Shortlisting entries for final stage**
  - Conduct presentation and review prototypes submitted by all the 10 teams
  - Score Submitted Ideas out of 100 on each Evaluation Parameter
  - Shortlist 4 proposal for product development

#	Parameter	Weightages (Pre decided by Jury)	Score (to be provided by jury)	Weighted Score
1	**Approach Towards Problem Solving**	10%	S1	10%*S1
2	**Business Use Case**	10%	S2	10%*S2
3	**Solution Technical Feasibility**	10%	S3	10%*S3
4	**Roadmap Deployment**	10%	S4	10%*S4
5	**Team Ability & Culture**	10%	S5	10%*S5
6	**Addressable Market**	10%	S6	10%*S6
7	**Demonstration**	40%	S7	40%*S7
Total Score				∑ (w*s)

- **Step V: Evaluation of entries for final stage**
  - Conduct presentation and review prototypes submitted by all the 4 teams
  - Score Submitted Ideas out of 100 on each Evaluation Parameter
  - Based on the below weightage, winner will be shortlisted

#	Parameter	Weightages (Pre decided by Jury)	Score (to be provided by jury)	Weighted Score
1	**Solution Technical Feasibility**	25%	S3	25%*S1

2	**Final Roadmap of Deployment & Go-To Market Strategy**	25%	S4	25%*S2
3	**Scalability**	25%	S6	25%*S3
4	**Demonstration and Presentation**	25%	S7	25%*S4
Total Score				∑ (w*s)

9. Reward

a) Initial Financial support of Rs 7.5 lakh will be provided to each successful applicant for workable prototype development and demonstration.
b) Financial support of Rs 25 Lakh to the top four applications will be provided to build their solution following the design principles and best practices as per the need of the User Agency.
c) The winning team with the best-judged solution will get a contract to deploy their solution for use by user agency for a period of atleast 3 years and will also be supported by Rs. 50 Lakh from MeitY as award money to winner and Rs. 40 Lakh from implementing agency.
d) The successful developers may be given an opportunity to join the MeitY supported incubator/CoEs for further nurturing of their solution. This will be facilitated by challenge implementing agency of ICTGC.
e) The technologies that developed & demonstrated successfully and approved by the Competent Authority in MeitY may be listed in GEM and preferential market access may be provided to them.
f) MeitY may facilitate in deployment of successfully developed solutions in other emerging geographies.

10. Impact of ICTGC

An underlying assumption behind the ICTGC is that new perspectives, not constrained by traditional methodologies or disciplinary silos, are needed to address these challenges. The ICTGC will encourage new research communities and learning alliances to be brought together to conduct excellent research with impact. This will bring new and valuable insights and contribute to a step change to existing knowledge and approaches that address development challenges. All partners, including policy makers and practitioners, as well as researchers, will be expected to play an important role in research design and planning for implementation and uptake.

Through excellent research with impact, knowledge exchange and innovation the ICTGC aims to make a substantial contribution to improved social

welfare, economic development, and environmental sustainability. Impacts could be generated by providing a stronger evidence base for sustainable development policy and practice and helping both donor and recipient governments to spend limited resources wisely. Alternatively, impact may come from encouraging the effective use of knowledge, technology and innovation to create opportunities for economic development, community and business engagement, leading to new and improved, processes, services and business models. The ICTGC will support those activities that can demonstrate that they have the strongest potential for impact, recognising that research outcomes can be difficult to predict and pathways to impact can be complicated.

11. Selection of Challenge Implementing agency

A Call for Proposal will be floated at MeitY/ISPR website/STPI website and proposal will be accepted through online (ISPR portal). Subsequent to this initial screening will be done by MeitY and shortlisted proposal will be presented to the Steering Committee of ICTGC to be chaired by the Chairman National Software Product Mission (NSPM). The proposal recommended by Steering committee on the basis of novelty in problem statement, innovativeness, socio-economic penetration, effectiveness of proposed strategy, long term goal etc, and will be approved by the competent authority in MeitY. Implementing agency has to accept the all Terms and Condition for ICTCG. It may be noted that STPI could not be challenge implementing agency for any ICTGC.

12. Budget of ICTGC

MeitY will organize FOUR ICT Grand Challenges through implementing agency for addressing socio-economic challenges by software products using emerging technology. Each ICTGG may have one grand problem statement with end target of achieving 4 marketable software products.

MeitY contribution:
The proposed budget with respect of MeitY contribution for one ICTGC is as below:

Sr.N.	Head	Budget (Rs in Lakh)
1.	Workable prototype development and demonstration of go to market strategy (**Rs 7.5 Lakh each**) at ideation stage.	75
2.	Financial support to four successful developers (**Rs 25 Lakh each**) and to build their solution following the design principles and best practices at prototype stage.	100
3.	**Product Building (Final Stage):** The winner will get a fixed amount of INR 50 Lakh.	50
3.	Media publicity, Promotion, Communication, application process/scrutiny, logistics, mentor for evolving PoC and administrative charges of implementing agency (**Rs 25 lakh for each GC**)	25
4.	**Total (for conducting one ICTGC)**	**250 Lakh**

Challenge implementing agency contribution:

Challenge implementing agency has to ensure the following at up front, while submitting the proposal in MeitY:

- List and details of committed mentor involve to solve the identified problems
- Commitment of industry contribution of Rs. 40 Lakh to winner of the challenge. This commitment may in the form of contribution from Startups/MSMEs own fund, fund from angel or fund from user agency etc.

For conducting **FOUR ICTCG in two years, Rs 10 Crore** would be MeitY contribution and **Rs 1.60 Crore** would be from **industrial contribution**.

13. Output/deliverables

At the end of each ICTGC, 10 software products are expected to be developed as prototype and 4 finish software products with one winner. At the end of the two years, 40 software products prototype will be developed with 16 finish software products and 4 winners for addressing challenges as expected through four ICTGC. Out of 16 finish Software products, 4 will be deployed at user agency.

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