## Guidelines for Evaluation

## Technical Research & Development Proposal

Ignite – National Technology Fund is dedicated to creating an innovation centric research and development ecosystem that is congruent to socioeconomic landscape in Pakistan. The fund promotes the view that an incremental innovation removes bottlenecks and alleviates rate limiting factors from value chains. Funded proposals are expected to perform research and development that leads to innovation and resulting wealth generation in the country. We encourage proposals that perform original research as well as leverage results of existing research to develop solutions for important industrial, commercial and social problems.

The probability of wealth generation through incremental innovation depends upon the following factors:

1. Economic, industrial, commercial and social importance of the value chain.
2. Importance of the rate limiting factors addressed.
3. Level of success in alleviating rate limiting factors.
4. The price point at which the rate limiting factors are alleviated.
5. Time frame in which the rate limiting factor are alleviated. This is also known as the window of opportunity. Delays in providing solution could result in decreased importance of the value chain by the time the rate limiting factor is alleviated.

Evaluators are expected to take a nurturing attitude and guide the project team toward developing proposals that achieve the objective of wealth generation through innovation. It is expected that an approved R&D proposal will provide the following information:

1. Concrete objectives.
2. Succinct description of
   1. Value chains that are focus of the proposal,
   2. Key bottlenecks and rate limiting factors associated with these value chains.
3. Literature search related to important and well known solutions that focus on these value chains and rate limiting factors.
4. Known key strengths and weaknesses of these solutions.
5. Weaknesses of well known and established solutions that will be removed by the proposed solution.
6. Techniques used to achieve improvements mentioned above.
7. Justification for using these techniques.
8. High level description (outlines, design, and algorithmic description etc.) of proposed solution.
9. Progress that has already been made and positive results received so far.
10. Project plan and intermediate deliverables.
11. Plan to integrate proposed solution with the existing industrial or academic environment.
12. Capabilities of core project team members and the infrastructure and support provided by the institution.

A detailed evaluation form is provided to assist evaluators achieve the objective of guiding the project team towards developing superior quality proposal.

|  |  |  |  |
| --- | --- | --- | --- |
| **Request for:** [ X ] **External Evaluation** | | | |
| **Date of Request:** |  | **Due Date:** |  |
| **Title of Proposal:** |  | | |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Evaluator’s Details:** | | | | | | | | | | |
| Name: | | | |  | | | | | | |
| Designation: | | | |  | | | | | | |
| Institution: | | | |  | | | | | | |
| Address: | | | |  | | | | | | |
| Tel #: |  | | | | Cell #: |  | | | Fax: |  |
| Email: | |  | | | | | Home Page: |  | | |
| **What core technology is your area(s) of expertise?** *(Mark all that are applicable)* | | | | | | | | | | |
| |  |  |  | | --- | --- | --- | | [ ] 3D/4D Printing | | [ ] Augmented Reality / Virtual Reality | | [ ] Big Data, Artificial Intelligence | | [ ] Blockchain | | [ ] Cloud | | [ ] Neuroscience | | [ ] Robotics | | [ ] Shared economy | | [ ] The Internet of Things | | [ ] Wearables, Implantables | | [ ] Fintech | | [ ] Cleantech | | [ ] Driverless Vehicles, Drones | | [ ] Programmable Hardware | | [ ] Synthetic Biology | | [ ] Quantum Computing / Supercomputers | | [ ] Others (specify): | here | | | | | | | | | | | | |
| What market(s) you are interested in? *(Mark all that are applicable)*  |  |  |  | | --- | --- | --- | | [ ] Automotive, aviation, marine | | [ ] Business, marketing, finance | | [ ] Defence, security, safety | | [ ] Education and training | | [ ] Environment, water management | | [ ] Entertainment, tourism, sport/recreation | | [ ] Food, livestock, agribusiness | | [ ] Healthcare | | [ ] Infrastructure, housing & transport | | [ ] Mining equipment technology & services | | [ ] Oil, gas, energy | | [ ] Textiles, clothing, footwear | | [ ] Telecommunication | |  | | [ ] Others (specify): | here | | | | | | | | | | | | |
| **To what degree are you familiar with the proposed topic/project?** *(Mark all that are applicable)* | | | | | | | | | | |
| [ ] I am actively engaged in research and/or developmental work in this specific area. | | | | | | | | | | |
| [ ] I have carried out research and/or developmental work in the past in this specific area. | | | | | | | | | | |
| [ ] I have taught courses in this specific area. | | | | | | | | | | |
| [ ] My experience is in the general area but I have not worked in this specific area. | | | | | | | | | | |
| Others: | | |  | | | | | | | |
|  | | | | | | | | | | |

|  |  |  |
| --- | --- | --- |
| **Section – 2: (Part 1)**  **2.1 Background**  **2.2 Outcomes & Benefits** | | |
| *Evaluate the efforts in referencing the literature/ research background of the proposed area and assessing current state of the art and challenges associated with it, outcomes and benefits. Your specific comments on the sections’ strengths and weaknesses are significant. See Annexure-A for guiding points and rank accordingly.* | | |
| **Key Strengths:** | <type here> | |
| **Key Weaknesses:** | <type here> | |
| **Ranking:** (check one) | | |  |  |  |  |  | | --- | --- | --- | --- | --- | | Unsatisfactory | Needs Improvement | Satisfactory | Above Average | Well Above Average | | [ ] | [ ] | [ ] | [ ] | [ ] | |
|  | | |

|  |  |  |
| --- | --- | --- |
| **Section – 2: (Part 2)**  **2.3 Objectives**  **2.4 Research Approach**  **2.5 Risk Analysis** | | |
| *Evaluate the methods and approach as well as objectives of the proposed project. Your specific comments on the sections’ strengths and weaknesses are significant. See Annexure-A for guiding points and rank accordingly.* | | |
| **Key Strengths:** | <type here> | |
| **Key Weaknesses:** | <type here> | |
| **Ranking:** (check one) | | |  |  |  |  |  | | --- | --- | --- | --- | --- | | Unsatisfactory | Needs Improvement | Satisfactory | Above Average | Well Above Average | | [ ] | [ ] | [ ] | [ ] | [ ] | |
|  | | |

|  |  |  |
| --- | --- | --- |
| **Section – 3:**  **3.1 Resources & Other Requirements** | | |
| *Evaluate the above sections, keeping in view the guiding points (see Annexure-A) and rank accordingly. Your specific comments on the sections’ strengths and weaknesses are significant.* | | |
| **Key Strengths:** | <type here> | |
| **Key Weaknesses:** | <type here> | |
| **Ranking:** (check one) | | |  |  |  |  |  | | --- | --- | --- | --- | --- | | Unsatisfactory | Needs Improvement | Satisfactory | Above Average | Well Above Average | | [ ] | [ ] | [ ] | [ ] | [ ] | |
|  | | |

|  |  |  |
| --- | --- | --- |
| **Annexure – B: Proposed Budget** | | |
| *Evaluate the proposed budget in accordance with the guiding points (see Annexure-A) and rank accordingly. Your specific comments on the sections’ strengths and weaknesses are significant.* | | |
| **Key Strengths:** | <type here> | |
| **Key Weaknesses:** | <type here> | |
| **Ranking:** (check one) | | |  |  |  |  |  | | --- | --- | --- | --- | --- | | Significantly Under Estimated | Under Estimated | Good Estimate | Over Estimated | Significantly Over Estimated | | [ ] | [ ] | [ ] | [ ] | [ ] | |
|  | | |

|  |
| --- |
| **Overall Rating of the Proposal:** |
| In summary, I rate the proposal as: |
| |  |  |  |  |  | | --- | --- | --- | --- | --- | | Unsatisfactory | Needs Improvement | Satisfactory | Above Average | Well Above Average | | [ ] | [ ] | [ ] | [ ] | [ ] | |

|  |  |
| --- | --- |
| **Overall Recommendations: (External Evaluator)** | |
| [ ] Recommended for approval in its current form. | |
| [ ] Recommended for external re-evaluation with the following revisions. | |
| Suggested revisions: | <type here> |
| [ ] Not Recommended because of the following reasons: | |
| [ ] Similar ideas have already been funded many times.  [ ] Objectives are too broad and vague to be achieved realistically.  [ ] No focused development approach is presented in the proposed area.  [ ] Methods and approach are not satisfactory.  [ ] Project structure and design is not devised satisfactorily.  [ ] Project will create very low value to the National ICT stakeholders for the requested amount of funding.  [ ] Proposal needs significant improvement to deliver the proposed value in realistic time and budget and thus may be resubmitted afresh if desired  [ ] After maximum number of review(s)/re-evaluation(s), the proposal has not yet been recommended for funding by the evaluators.  [ ] Others: (Please specify) | |
| <type here> | |

|  |  |  |  |
| --- | --- | --- | --- |
| Date: |  | Signature \*: |  |

**\* Insert scanned signature or attach scanned copy of signed page.**

**Please return this form, by e-mail and fax, before due date to:**

**Solicitation & Evaluation Department**

**Ignite – National Technology Fund**

**6th Floor, HBL Tower, Jinnah Avenue Islamabad.**

**Tel: (+92 51) 921 5360 - 65**

**Fax: (+92 51) 921 5366**

**Annexure – A: Guiding Points for Evaluation**

|  |
| --- |
| **Section – 2: (Part 1)**  **2.1 Background** |
| Evaluate the key strengths and weaknesses keeping in view the below guiding points. |
| |  |  | | --- | --- | | a. | Does the literature review describe the value chain and justify its importance? | | b. | Does the literature review describe key bottlenecks and rate limiting factors associated with the relevant value chain? | | c. | Does the literature review provide succinct information about existing solutions to the key bottleneck and rate limiting factors? | | d. | Are challenges and shortcomings in the existing solutions discussed? | | e. | Has project team justified need and motivation for the proposed project? | | f. | Is the research background summary and references relevant to the proposed project? |   **2.2 Outcomes & Benefits**   |  |  | | --- | --- | | a. | Are the benefits for stakeholders, described in the proposal related to the value chain? | | b. | Are there any major impacts of the proposed project discussed? | | c. | Is the commercialization aspect of the project elaborated? | | d. | Does the proposed product/solution address the current and future needs of relevant industry? | | e. | Does the proposal describe process for technology transfer to potential beneficiaries and utilization by relevant stakeholders? | |

|  |  |
| --- | --- |
| **Section – 2: (Part 2)**  **2.3 Objectives** |  |
| Evaluate the key strengths and weaknesses keeping in view the below guiding points. | |
| |  |  | | --- | --- | | a. | Do the proposed objectives targets ICT related research and/or development? | | b. | Are the objectives measurable and clearly defined? |   **2.4 Research Approach**   |  |  | | --- | --- | | a. | Does the proposed approach suggest how key bottlenecks will be removed? | | b. | Does the proposed approach contain analysis, design, development, implementation and testing plans? | | c. | Does the proposed approach include high-level information like block-diagrams/ schematics etc. for proposed hardware/software solution? | | d. | Is the proposed approach implementable? | | e. | Will proposed objectives be achieved through implementing the proposed research and/or development process? | | f. | Are deliverables concrete and tangible and quarterly apart? | | g. | Are milestones and deliverables aligned with completion of activities of the project? | | h. | Does the Gantt chart list activities in enough details to be evaluated? |   **2.5 Risk Analysis**   |  |  | | --- | --- | | a. | Are the potential risks described? | | b. | Is the assessment of the likelihood of risk is defined? | | c. | Is the likely impact/consequences and its mitigation is defined? | | |

|  |
| --- |
| **Section – 3:**  **3.1 Resources & Other Requirements** |
| Evaluate the key strengths and weaknesses of the core project team members and rank the ability to conduct and manage the proposed project in accordance with the following guiding points. |
| |  |  | | --- | --- | | a. | Is the PI/CPI aware of latest developments in the proposed area? | | b. | Has the PI/CPI been working on similar projects in the past? | | c. | Does the PI/CPI have published work in the proposed area? | | d. | Does the PI/CPI have industrial experience in the proposed area? | | e. | Are proper teams formed for various phases for possible parallel processing to reduce project duration? | | f. | Is the expertise of project team adequate for the proposed approach? | | a. | Is the number of project team members justified according to proposed activities? |   **Capability of the Institution/Organization:**   |  |  | | --- | --- | | a. | Does the institute/organization have good research and/or development reputation? In case of academic institute does it have HEC or international R&D ranking? (For information, please visit organization’s website) | | b. | Does the institute/organization have any existing funded R&D projects? | | c. | Does the institute/organization have well established research and/or development facilities/labs? | |

|  |  |
| --- | --- |
| **Annexure – B: Proposed Budget** |  |
| Evaluate the proposed budget of the project in accordance with the following guiding points. | |
|  | |
| |  |  | | --- | --- | | a. | Human Resources mentioned in the budget are in line with section 3.1 of the proposal? | | b. | Is the request for equipment justified? | | c. | Have the specifications for the demanded equipment been provided? | | c. | Does the equipment claimed according to the technical tasks involved in the project? | | d. | The following applies to internal evaluator only.  If the project is an extension of another project, has the equipment already purchased and used during previous project (already completed or nearing completion) been catered for while demanding new equipment? | | e. | Travel is only allowed for presenting project related papers in the conference. Has the justification column been filled? | | f. | Is Boarding & Lodging in line with the travel plan? Has the justification column been filled? | | |