

**Proposal / Application**

**for**

**ICT-Related Research and Development Grant**

**<UNDERWTER ACUSTIC LOCALIZATION>**

**<Umair Ali>**

**Read carefully before filling the form.**

1. Please do not alter the layout of the application form. Information must be filled in the spaces provided, under set format.
2. Guidance notes in various fields should not be deleted.
3. Required information should be duly filled in the specified fields.
4. Required heads/fields which are not relevant to the project should be marked **N/A** (Not Applicable) or left blank and should not be deleted.
5. Specifications, justifications, purposes must be provided against each item in the Budget file.
6. Please do not change the formulas in the budget sheets.
7. We have prepared financial guidelines to evaluate the remuneration for human resource associated with the proposed project. The guidelines are available on our website.

**List of Abbreviations and Acronyms**

|  |  |
| --- | --- |
| EE | External Evaluators |
| ICT | Information and Communication Technologies |
| IPR | Intellectual Property Rights |
| CPI | Co-Principal Investigator |
| PI | Principal Investigator |
| PIO | Principal Investigator’s Organization  *"Principal Investigator’s Organization" means the person, company, partnership, undertaking, concern, association of persons, body of individuals, consortium or joint venture which receives funding from the Company to execute a research and development project.”* |
| R&D | Research and Development |

**List of Abbreviations and Acronyms Used by PI in the Proposal**

(Please add abbreviations and acronyms in the table below, if any.)

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**Application for ICT-Related Development and Research Grant**

**Guidelines and Forms**

**Introduction**

Ignite (formerly National ICT R&D Fund) was created in January 2007 by Ministry of IT with the vision to transform Pakistan's economy into a knowledge-based economy by promoting efficient, sustainable, and effective ICT (IT and Telecommunications) initiatives through synergic development of industrial and academic resources. Collaborative efforts between academia, research institutions, and industry are greatly encouraged to ensure that local economy can reap the monetary benefits of investment in research. This organization has significant funds available for proposals that are geared towards creating ICT related technologies.

Research grants will be awarded for high-level and promising ICT-related development and research projects by individuals or groups from academia and/or industry actively involved in the research and development individually or collaboratively. These projects should be based on either a universally known technology or a new technology developed by the applicant and should be aimed at achieving economically viable systems, products, or processes beneficial to the nation.

The grant will cover the honoraria of the principal investigator and co- principal investigators, salaries of professional researchers and developers at market rate, stipends for student research assistants, and supporting staff. It will also cover travel(s) within and outside the country for project-related activities and for scientific conferences where project team’s research paper, an outcome of the project, has been selected for presentation. The grant may be used to purchase very specific unavoidable equipment kept to the bare minimum, consumable materials, and other items needed for the project.

**Submission Procedure**

Duly filled application forms complete in all respects along with any documents should be submitted online through Ignite’s website www.ignite.org.pk. A hard copy should also be submitted by registered post or by fax at our mailing address given below. On receipt of the applications the proposals will be evaluated internally as well as externally as laid down in our policy documents. The PI may need to revise the proposal in light of the evaluator’s recommendations.

There is no deadline for submission of the application forms for Unsolicited Projects. The deadline for Solicited Projects will be given in the RFPs whenever floated.

**Joint Funding**

The project proposal may be jointly funded by Ignite and other funding agencies/industry. The efforts to obtain joint funding will be at the discretion of the Principal Investigator Organization (PIO) to which Principal Investigator belongs. However, any such information must be provided to Ignite.

**Agreement**

A written agreement will be made between Ignite (formerly National ICT R&D Fund) and PI. The PI will undertake to administer the grant according to the agreement and to provide laboratory space, and other facilities necessary for the project. The equipment purchased with Ignite fund for the approved project will remain the property of Ignite. The laptops will be returned to Ignite after completion of the project. The grantee is required to submit a final narrative and financial report within one month of the completion of the project. The IPR issues will be sorted according to the policy in vogue.

**For further information, please contact:**

Solicitation and Evaluation Department,

Ignite – National Technology Fund,

6th Floor, HBL Towers,

Jinnah Avenue, Blue Area, Islamabad

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

Fax: (+92-51) 921 5366

Website: [www.ictrdf.org.pk](http://www.ictrdf.org.pk)

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**Note:** To update the table of contents, right click in the table and select ‘*update field*’ and then select ‘Update Entire Table’.

**Application for ICT-Related Development and Research Grant**

# Section – 1

# 1.1 Project Identification

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Reference Number: | | | | | | | | | | |
| (for office use only) | | | | | | | | | | |
| Project Title: | | | | | | | | | | |
| **<UNDERWATER ACOUSTIC SOURCE LOCALIZATION>** | | | | | | | | | | |
| Principal Investigator (PI): | | | | | | | | | | |
| Name: | | |  | | | | | | | |
| Designation: | | |  | | | | | | | |
| Organization: | | |  | | | | | | | |
| Mobile # : | | |  | | | | Tel. # : | |  | |
| Email: | | |  | | | | | | | |
| *(A letter from the competent authority regarding PI’s time commitment for the proposed research project must be provided.)* | | | | | | | | | | |
| **Co-Principal Investigator (CPI):** | | | | | | | | | | |
| Name: | | |  | | | | | | | |
| Designation: | | |  | | | | | | | |
| Organization: | | |  | | | | | | | |
| Mobile # : | | |  | | | | Tel. # : | |  | |
| Email: | | |  | | | | | | | |
| **Contact Person:** (If different from PI.) | | | | | | | | | | |
| Name: | | |  | | | | | | | |
| Designation: | | |  | | | | | | | |
| Organization: | | |  | | | | | | | |
| Mobile # : | | |  | | | | Tel. # : | |  | |
| Email: | | |  | | | | | | | |
| Principal Investigator’s Organization (PIO):  *(Please indicate the name, address, telephone and fax of the Principal Investigator’s Organization. The Principal Investigator should belong to this organization.)* | | | | | | | | | | |
| Name: | | **Umair Ali** | | | | | | | | |
| Address: | | Sajjad(PTCL),Allah Loq coloney, Qamer Sialivi Road,Gujrat | | | | | | | | |
| Registration #: | |  | | | | | | | | *(Please attach certified copy)* |
| National Tax #: | |  | | | | | | | | *(Please attach certified copy)* |
| Tel. # : | | 053-3515158 | | | | Fax # : | |  | | |
| Website: | |  | | | | | | | | |
|  | | | | | | | | | | |
| What technology is core to your product? *(Please mark*  *where applicable)*   |  |  |  | | --- | --- | --- | | [ ] 3D/4D Printing | | [ ] Augmented Reality / Virtual Reality | | [ ] Big Data, Artificial Intelligence | | [ ] Blockchain | | [ ] Cloud | | [ ] Neurotech | | [ . ] Robotics | | [ ] Shared economy | | [ ] The Internet of Things | | [ ] Wearables, Implantables | | [ ] Others (specify): |  | | | | | | | | | | | | |
| What is the target market(s) for the products? *(Please mark*  *where 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 | | [ ] Others (specify): |  | | |  | |  | | | | | | | | | | | |
| How did you hear about us? (Please mark  where applicable)   |  |  |  |  |  | | --- | --- | --- | --- | --- | | [ .] www.ictrdf.org.pk | | [ ] ICTRDF Brochure | [ ] ICTRDF Rep | [ ] Event/Seminar | | [ ] Google | | [ ] Social Media | [ ] Print Media | [ ] Word of Mouth | | [ ] Other (specify): |  | | | | | | | | | | | | | | |
| Other Organizations Involved in the Project: *(Please identify all affiliated organizations collaborating in the project, and describe their role/contribution to the project.)* | | | | | | | | | | |
| **Industrial Organizations:** | | | | | | | | | | |
| *#* | *Organization Name* | | | | | *Role / Contribution* | | | | |
|  |  | | | | |  | | | | |
|  |  | | | | |  | | | | |
| **Academic Organizations:** | | | | | | | | | | |
| *#* | *Organization Name* | | | | *Role / Contribution* | | | | | |
|  |  | | | |  | | | | | |
|  |  | | | |  | | | | | |
| **Funding Organizations:** | | | | | | | | | | |
| *#* | *Organization Name* | | | | | *Role / Contribution* | | | | |
|  |  | | | | |  | | | | |
|  |  | | | | |  | | | | |
| **Other Organizations:** | | | | | | | | | | |
| *#* | *Organization Name* | | | | | *Role / Contribution* | | | | |
|  |  | | | | |  | | | | |
|  |  | | | | |  | | | | |
| Key Words: *(Please provide a maximum of 5 key words that describe the project. The key words will be incorporated in our database.)* | | | | | | | | | | |
| <type here> | | | | | | | | | | |
| Research and Development Theme: *(If the proposal belongs to a theme specified by Ignite, please identify the Research Theme.)* | | | | | | | | | | |
| <type here> | | | | | | | | | | |
| Project Status: (Please mark )  [ ] New [ ] Modification to previous Project  [ ] Extension of existing project | | | | | | | | | | |
| Project Duration: | | | | months | | | | | | |
| Proposed Budget: | | | | PKR | | | | | | |
| The Problem:  *(Please describe the problem / opportunity / gap / need that you want to address/solve. Maximum 300 words.)* | | | | | | | | | | |
| Pakistan offshore area for Exclusive Economic Zone is 200 NM (nautical mile) with the addition of 50,000sq KM of continental shelf claimed by Pakistan its area has extended to 350 NM. With the extension of the continental shelf, there are high chances for economical increment from 1.2 billion dollars to almost double because of seafood, and minerals. Pakistan has become the center for trading with the establishment of China-Pakistan economic corridor and defensive territory of Pakistan also requires advancement in Technology for monitoring and detection. Now there is a need for scientific exploration and research for underwater creatures. Underwater acoustic source localization is an active and important research question. Different Techniques for scientific exploration available like the high-frequency beam, Radar systems, and wireless sensor networks. But these systems either have high cost or less accurate because of unstructured and abrupt nature of water due to high attenuation of frequency and un-modeled noise. The accuracy of these systems varies under different circumstances. | | | | | | | | | | |
| Following are some of the well-known (identify the best known if possible) existing solutions to this problem. Their known strengths and weaknesses are also provided.  *(Maximum 200 words.)* | | | | | | | | | | |
| <type here> | | | | | | | | | | |
| Our solution will address the following weaknesses of above mentioned solutions.  *(Maximum 200 words.)* | | | | | | | | | | |
| <type here> | | | | | | | | | | |
| We will use the following techniques to achieve improvements mentioned above.  *(Maximum 200 words.)* | | | | | | | | | | |
| <type here> | | | | | | | | | | |
| Synopsis:  *(A brief description of the idea, in non-technical language, explaining product benefit, target market, basic technology, commercial partners, investors, and potential customers. Maximum 200 words.)* | | | | | | | | | | |
| <type here> | | | | | | | | | | |

# Section – 2

# 2.1 Background

|  |
| --- |
| **Scope of the Project:** |
| <type here> |
| **Literature Review:** *(Detailed summary of what all has been done internationally in the proposed area quoting references and bibliography.* ***Maximum 1500 words.****)* |
| <type here> |
| **Current State of the Art:** *(Please describe the current state of the art specific to this research topic.* ***Maximum 500 words.****)* |
| <type here> |
| **Challenges:** *(Please describe the challenges, specific to this research topic, currently being faced internationally.* ***Maximum 500 words.****)* |
| <type here> |
| **Motivation and Need:** *(Please describe the motivation and need for this work.* ***Maximum 500 words.****)* |
| <type here> |

# 2.2 Outcomes and Benefits

|  |
| --- |
| Expected Outcomes: *(Provide a list of proposed project outputs including publications, databases etc.)*  <type here> |
| Key Benefits and Beneficiaries: *(Please identify clearly the benefits and potential customers/beneficiaries of the project.)*  <type here> |
| Technology Transfer/Diffusion Approach: *(Please describe how the outputs of the project will be transferred to the beneficiaries/customers. Maximum 500 words.)*  <type here> |

# 2.3 Objectives

|  |
| --- |
| *(Please describe the measurable objectives of the project and define the expected results. Use results-oriented wording with verbs such as ‘to develop..’, ‘to implement..’, ‘to research..’, ‘to determine..‘, ‘to identify..’* ***The objectives should not be statements and should actually specify in simple words what the project team intends to achieve (something concrete and measurable/ deliverable). Fill only those objectives that are applicable to the proposed project****.)* |
| **Research Objectives:** *(if any)*   * <type here>   **Academic Objectives:** *(if any)*   * <type here>   **Commercial Objectives:** *(if any)*   * <type here>   **Other Objectives:** *(if any)*   * <type here> |

# 2.4 Research Approach

|  |  |  |  |
| --- | --- | --- | --- |
| Development / Research Methodology:  *(Please describe the technical details and justification of your development and research plan. The block diagrams, system flow charts, high level algorithm details etc. have to be provided in this section.* ***Maximum 3000 words.****)* | | | |
| <type here> | | | |
| Key Milestones and Deliverables:  *(Please list and describe the principal milestones and associated deliverables of the project. The timing of milestones is also to be shown in the Gantt chart in Annexure-A.* ***Quarterly deliverables are preferred****.)* | | | |
| The information given in this table will be the basis of monitoring and release of funds by the Ignite. | | | |
| *No.* | *Elapsed time from start (in months) of the project* | *Milestone* | *Deliverables* |
|  | 3 months |  |  |
|  | 6 months |  |  |
|  | 9 months |  |  |
|  | 12 months |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
| (Please add more rows if required.) | | | |

# 2.5 Risk Analysis

|  |
| --- |
| *(Please list the risks that may cause delays in, or prevent implementation of, the project. For each risk estimate the likelihood, likely impact/consequences on the project and steps to minimize/avoid the risk.)* |
| |  |  |  |  | | --- | --- | --- | --- | | **Risk** | **Likelihood**  **(Low, Med, High)** | **Impact** | **Mitigation** | |  |  |  |  | |  |  |  |  | |  |  |  |  | |  |  |  |  | |  |  |  |  | |

# Section – 3

# 3.1 Resources & Other Requirements

|  |  |
| --- | --- |
| Project Team:  *(Please attach the CVs of P, CPI(s) and key research/development personnel which should clearly show their expertise in relation to the needs of the project. Please follow the format included in Annexure-C.* ***The numbers in the table below must tally with the HR Cost sheet in the Budget file.****)* | |
| ***Title / Position*** | ***Number*** |
| Team Leads |  |
| Researchers / Developers |  |
| Researcher / Development Assistants |  |
| Support Staff |  |
| Contract Staff (please specify) |  |
| Others (please specify) |  |
| Add more rows if required |  |
| Team Structure:  *(Please define the team structure (organogram) and role/key responsibilities of each member. If in collaboration with another partner, the division of manpower at various locations of partners be provided.)* | |
| <paste organogram here>   |  |  |  |  |  | | --- | --- | --- | --- | --- | | **Title/Position**  **(of each member)** | **Role/Key Responsibilities** | **Minimum Qualification Required** | **Expertise / Background Required** | **Minimum Experience Required (years)** | |  |  |  |  |  | |  |  |  |  |  | |  |  |  |  |  | |  |  |  |  |  | |  |  |  |  |  | |  |  |  |  |  | |  |  |  |  |  | | |

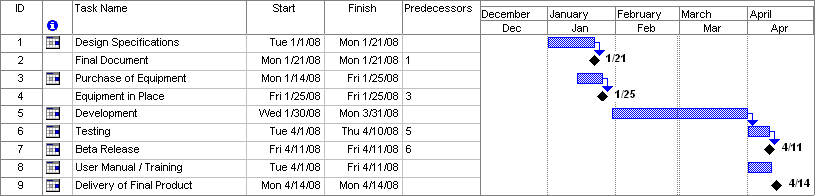
# 3.2 Contractual Matters

|  |
| --- |
| Contractual Obligations under this Project: *(Please indicate any contractual obligations with third parties that will be entered into for this project.)* |
| <type here> |
| Ownership of Intellectual Property Rights: *(As per policy in vogue, following clause is applicable.)* |
| All newly developed intellectual property rights arising out of or capable of legal recognition with respect to the projects implemented by the Ignite, formerly National ICT R&D Fund, (The “Company”) shall vest with the Company.    The Company may assign or license its rights in the said intellectual property to any person on such terms as it may deem appropriate. |
| Competent Authority of the Principal Investigator’s Organization:  *(Documentary proof of the Competent Authority (VC/Rector/CEO) as being the authorized signatory for the PIO is mandatory for approval of the Project Proposal.* ***Please attach copy of the proof.****)*   |  |  |  |  | | --- | --- | --- | --- | | Name: |  | | | | Designation: |  | | | | Email: |  | | | |  |  | | | | Date: |  |  | Signature  & stamp: | |

# Annexure–A: Project Schedule / Milestone Chart

***(Project schedule using MS-Project (or similar tools) with all tasks, deliverables, milestones, cost estimates, payment schedules clearly indicated are preferred.)***

***Example:***



**SPECIMEN**

# Annexure–B: Proposed Budget

Please use the embedded Excel Worksheet for providing budget details.

Double click the icon to open the worksheet.



# Annexure–C: Curriculum Vitae

|  |  |
| --- | --- |
| Please provide relevant information and also attach CVs of key research / development personnel (if available) and PI, CPI. | |
| 1. **Professional Information** | |
| 1. Name : |  |
| 1. Title or Position Held : |  |
| 1. Experience : (yrs) |  |
| 1. Email Address : |  |
|  |  |
| 1. **Research Papers in Relevant Area** | |
| <type here> | |
| 1. **Courses Taught in Relevant Area** | |
| <type here> | |
| 1. **Thesis / Projects Supervised in Relevant Area** | |
| <type here> | |
| 1. **Grants Received in Relevant Area** | |
| <type here> | |
| 1. **Industrial Work Done in Relevant Area** | |
| <type here> | |
|  | |

Please paste detailed CV here

.

|  |  |
| --- | --- |
| Please provide relevant information and also attach CVs of key research / development personnel (if available) and PI, CPI. | |
| 1. **Professional Information** | |
| 1. Name : |  |
| 1. Title or Position Held : |  |
| 1. Experience : (yrs) |  |
| 1. Email Address : |  |
|  |  |
| 1. **Research Papers in Relevant Area** | |
| <type here> | |
| 1. **Courses Taught in Relevant Area** | |
| <type here> | |
| 1. **Thesis / Projects Supervised in Relevant Area** | |
| <type here> | |
| 1. **Grants Received in Relevant Area** | |
| <type here> | |
| 1. **Industrial Work Done in Relevant Area** | |
| <type here> | |
|  | |

Please paste detailed CV here

# Bibliography

<type here>