|  |  |  |
| --- | --- | --- |
| http://www.hec.gov.pk/heclogo.gif | HIGHER EDUCATION COMMISSION H-9, Islamabad (Pakistan) | For HEC use only  Proposal Identification Number |

technology Development Fund for Ph.D. sCHOLARS

Prototype/Product Development grant proposal

COVER SHEET FOR PROPOSAL

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| A1. TITLE OF PROPOSED PROJECT  A2. CLASSIFICATION/NAME OF PRODUCT/PROCESS/SERVICE TO BE CREATED | | | | | | | |
| B1. RESEARCH DOMAIN  ⬜ Product Development/ Improvement ⬜ Process Development/ Improvement  B2. STATE FIELD OF RESEARCH AND SPECIALIZATION (For example; PREVIOUS EXPERIENCE WITH INDUSTRIAL RESEARCH)  Major \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Specialization \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | | | | | | |
| C1. PROJECT DIGEST. Describe the proposed PROJECT using (about 300) in easy business language.    C2. Patent/IP Search:   1. What is status of your idea vis-à-vis similar patents? 2. Have you already filed a patent application? 3. If a patent already exists on your idea/concept, then what is your strategy and rationale in making the proposed research?   ­­­­­­­­­­­­­­­ | | | | | | | |
| D. PRINCIPAL INVESTIGATOR (from University / Institution) | | | | | | | |
| D1. PRINCIPAL INVESTIGATOR NAME (full with no initials) | | | | | D2. HIGHEST DEGREE | | D3. POSITION |
| D4. DEPARTMENT/SECTION | D5. UNIVERSITY/INSTITUTION | | | | D6. MAILING ADDRESS | | |
| D7. Telephone:( area code, number and extension) Fax: (Area code, number) Email: | | | | | | | |
| E: INDUSTRIAL PARTNER (from Collaborating Industry) | | | | | | | |
| E1. Industrial Partner NAME (full with no initials) | | E2. HIGHEST DEGREE | | | | E3. POSITION | |
| E4. SECTION / UNIT | | E5. FACTORY / INDUSTRY | | | | E6. OFFICIAL MAILING ADDRESS | |
| E7. Telephone:( area code, number and extension) Fax: (Area code, number) Email: | | | | | | | |
| F1. PROPOSED DURATION OF PROJECT: (*in* *months*) | | | | F2. PROPOSED STARTING DATE | | | |
| F3. TOTAL FUNDS REQUESTED  RS. | | F3.A HEC COMPONENT  RS. | | | | F3-B INUDSTRY COMPONENT  RS. | |
| SIGNATURE OF PRINCIPAL INVESTIGATOR  Date | | | SIGNATURE OF PARTNER INDUSTRY  Date | | | | |

|  |  |
| --- | --- |
| ENDORSEMENT OF THE HEAD OF INSTITUTION (Vice-chancellor/Rector of University, Director of Degree-awarding Institutions)  Signature & Date  Name Title:  Address:  Phone FAX E-mail | ENDORSEMENT OF THE HEAD OF INDUSTRIAL ORGANIZATION  Signature & Date  Name Title:  Address:  Phone FAX E-mail |

# Project DEtails

# 1. PROJECT SUMMARY

|  |
| --- |
| Describe the proposed prototype and any research required using (about 250) words. Attach sketch/diagrams/photo, if needed, to illustrate your concept. |

# 2. PROPOSED GOALS/OBJECTIVES (please identify quantifiable goals)

|  |
| --- |
| Please clearly identify the output in the form of a **product or process, need or relationship to industry** and also identify other end-users of your output/product.  GOALS/OBJECTIVES (please quantify your objectives in case of Applied research)  1.  2.  3.  4.  5.  6.  7. |

# 3. INTRODUCTION (not to exceed one page)

|  |
| --- |
| The introduction should consist of three paragraphs; the first paragraph should indicate the scientific and/or commercial basis on which the project is based. The second paragraph should introduce the precise nature of the project, and the final paragraph should indicate the proposed objectives in the light of the first two paragraphs and explain clearly what the reader will see in the main body of the proposal.  ***(PLEASE ATTACH ONE SHEET ONLY)*** |

4A. BACKGROUND AND METHODOLOGY OF THE PROPOSED RESEARCH (Not to exceed two pages)

|  |
| --- |
| A comprehensive and up to-date justification for the proposed program for technology development, industrial growth, and contribution to national economy.  ***(PLEASE ATTACH TWO SHEETS ONLY)*** |

4B. RESEARCH PLAN: SCHEDULE/PHASING (Preferably with a time-chart not to exceed one page)

|  |
| --- |
| ***(PLEASE ATTACH ONE SHEET ONLY)*** |

# 4C. REFERENCES (cited in 3, 4A & 4B; not to exceed two pages)

|  |
| --- |
| ***(PLEASE ATTACH TWO SHEETS ONLY)*** |

# 5. IMPACT

|  |
| --- |
| Impact of proposed prototype on aspects such as transfers of research results into the economy in order to implement innovation, effects on import substitution and/or export enhancement, and on technology-oriented human-resource development. Please also identify other end-users of the research results. E.g.   1. Utilisation of local raw materials 2. Creation of Employment 3. Utilising current skill or creating new skills 4. Impact on local manufacturing or service cluster; explain how these will be helpful to move the particular sector up the value chain. 5. Solution to current local problems. 6. Reverse Engineering (adaptive research) from creation of wealth. 7. Export potential and global market possibilities with impact on local job creation. You may gather trade statistics from http://www.trademap.org/ |

**6. Sustainable Development Goals (SDG’s)** (How and which of the SDG’s will be addressed in this study? Justify how the proposed research will contribute to achieve SDG’s of Pakistan. For details on SDG’s /s please visit:)

# <http://undocs.org/A/68/970>

# [http://www.un.org/sustainabledevelopment/sustainable-development-goals](http://www.un.org/sustainabledevelopment/sustainable-development-goals/)

# http://www.slideshare.net/derekschwabe/the-17-proposed-sustainable-development-goals

|  |
| --- |
|  |

# 7. PROJECT PARTNERS (information on Industry)

|  |
| --- |
| Please give a brief introduction of the collaborating industry, especially information on turnover, import/export profile, stock exchange listing etc. Please indicate the portion of the proposed research program to be carried out at the Partners organization. Also state that how and where the Partner’s budgetary contribution will be utilized. |

# 8. PROJECT OUTPUT

|  |
| --- |
| Please give a brief account of accepted output |

# 9. FACILITIES AND FUNDING

|  |
| --- |
| 9A. Facilities: equipment available for the research project IN THE HOST UNIVERSITY/INSTITUTION & THE COLLABORATING OGRANIZATION |
| 9B. Scientific Personnel (at the PI institution)   1. Available 2. Required\*   \*Involvement of research students is encouraged. |
| 9C. Other funding available for the proposed studies (if any) |

# 10A. PRINCIPAL INVESTIGATOR

|  |
| --- |
| A brief resume of research accomplished in the last 05 years. Please specify title of the research proposal(s), duration, funding source(s) and award amount(s). |
| 1. Please attach C.V.   2. Number of Publications during the last five years & page National: \_\_\_\_\_\_\_\_\_ Please see pages\_\_\_\_\_\_\_\_\_\_\_ of CV  numbers on the C.V. where these publications are listed International: \_\_\_\_\_\_\_ Please see pages : \_\_\_\_\_\_\_\_\_\_ of CV  3. Number of research projects completed & page number Basic: \_\_\_\_\_\_\_\_\_ Please see pages \_\_\_\_\_\_\_\_\_\_\_ of CV  where this information appears Applied: \_\_\_\_\_\_\_ Please see pages\_\_\_\_\_\_\_\_\_\_\_ of CV |

**10B. CO-PRINCIPAL INVESTIGATOR**

|  |
| --- |
| A brief resume highlighting achievement / experience, specially concerned with the present proposal |
| **10C.** Attach the **Business Plan** for your proposed project |

# 11A. ESTIMATED BUDGET FOR THE PROPOSED RESEARCH PERIOD (Rs. in million)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| DESCRIPTION | YEAR 1 | | YEAR 2 | | Total Amount | |
| HEC | Industry | HEC | Industry | HEC | Industry |
| A. Salaries and Honorarium |  |  |  |  |  |  |
| PI: One month/year of basic salary @ |  |  |  |  |  |  |
| Co-PI: One month basic salary for the entire duration @ |  |  |  |  |  |  |
| Patent filing |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| Subtotal: |  |  |  |  |  |  |

Prototype Development Cost

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| B. Permanent Equipment (Please attach invoice/quotation and expected delivery date for items costing over Rs 0.1 Million) | | | | | | |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| Subtotal: |  |  |  |  |  |  |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| C. Expandable Supplies | | | | | | |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| Subtotal: |  |  |  |  |  |  |

# 11A. ESTIMATED BUDGET FOR THE PROPOSED RESEARCH PERIOD (Rs. In million)-continued

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| DESCRIPTION | YEAR 1 | | YEAR 2 | | Total Amount | |
| HEC | Industry | HEC | Industry | HEC | Industry |
| D. Others  D1. Literature, documentation, information, online literature search, contingencies, postage, etc. | | | | | | |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| Subtotal: |  |  |  |  |  |  |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| D2. Local Travel (Destination and Purpose) | | | | | | |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| Subtotal: |  |  |  |  |  |  |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| D3. Miscellaneous | | | | | | |
| Audit Fee (Max. Rs 10,000) |  |  |  |  |  |  |
| Accountant Fee (Max Rs. 10,000) |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| Subtotal: |  |  |  |  |  |  |
| Subtotal (D1 + D2 + D3): |  |  |  |  |  |  |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| E. Indirect cost (University overheads)  02% of Total direct costs to of the university portion meet office support, utilities, etc.) |  | Nil |  | Nil |  | Nil |
| **Grand** **Total (A + B + C + D + E):** |  |  |  |  |  |  |
| **Total Budget HEC + Industry Components** |  | |  | |  | |

# 12. JUSTIFICATION (Please justify your request in a background of the existing facilities available at the host Institute.)

|  |
| --- |
| A. **Salaries & Allowances** (All positions, other than PI and industrial partner, must be fully justified. Please give qualifications/requirements of each of the new full-time positions requested for in the Proposal.)  B. **Permanent Equipment** (Please identify major items (over Rs. 25,000). Major pieces of equipment costing over Rs. 0.1 million must be fully justified. Minor items (under Rs. 25,000) may be lumped into one.)  C. **Expendable supplies**  D. **Other Costs.** (Travel must be justified.) |

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Signature Principal Applicant