**Annex C**

**Council for Research and Advancement in Technology and Science (CREATES)**

Research Proposal Form

**RESEARCH PROPOSAL FORM**

**COUNCIL FOR RESEARCH AND ADVANCEMENT IN TECHNOLOGY AND SCIENCE (CREATES)**

***Note****: The proposal document should not be longer than 20 pages, including budget and title page, in minimum size of 12-point font with reasonable margins; be succinct and clear; and keep the language simple as the reviewer(s) may not be familiar with your sector. The answers to some of the questions can be taken from the CREATES Concept Note. You may need to adjust, but your answers should reflect what you proposed at the Concept Note. If you are making any substantial changes to your Concept Note responses, you need to clearly highlight these in your proposal and explain your reasons.*

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| **A. RESEARCH SUMMARY** |
| 1. **Research Title:**
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| 1. **Research Title in Short:**

*(Max 5 Words)* |  |
| 1. **Research Cluster Type:**

*(Please tick √ relevant cluster)* | **Food Science & Technology** |  | **Health** |  |
| **ICT** |  | **Energy** |  |
| **Environment & Sustainable Development** |  | **Other****(Please State)** |  |
| 1. **Types of Funding:**

*(Please tick √ relevant funding)* | **Basic** |  | **Applied** |  |
| 1. **Principal Investigator(s):**
 |  |
| 1. **Proposing Organisation:**
 |  |
| 1. **Expected Start:**
 | **Start:** |  | **End:** |  |
| 1. **Research Summary:**

*(Describe the project in not more than 200 words. Your summary should include planned activities, benefits, KPI outputs and outcomes.)* |  |
| 1. **Specific Place of Research:**
 |  |
| 1. **Estimated Funding Required:**

*(BND)* |  |

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| **B. RESEARCH TECHNOLOGY READINESS LEVEL (TRL)** |
| **TRL is a best practice and a mechanism to measure the level of technological readiness for a project. There are nine technology readiness levels. TRL 1 is the lowest and TRL 9 is the highest.** *(Please color the relevant checklists of activities)* |
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| **Development Stage** | **TRL** | **Definition** | **Checklist of activities to achieve this level** |
| **Fundamental Research** | 1 | Basic principles observed and reported | Basic research activities have been conducted and basic principles have been definedPrinciples and findings have been published in the literature (e.g., research articles, peer-reviewed papers, white papers) |
| 2 | Technology and/or application concept formulated | Applications of basic principles have been identifiedApplications and supporting analysis have been published in the literature (e.g., analytical studies, small code units for software, papers comparing technologies) |
| **Research and Development** | 3 | Experimental proof of concept | Proof of concept and/or analytical and experimental critical function has been developedSeparate components have been validated in a laboratory environment |
| 4 | Validation of component(s) in a laboratory environment | “Ad-hoc” integrated components, sub systems and/or processes have been validated in a laboratory environment How “ad-hoc” integration and test results differ from the expected system goals is understood |
| 5 | Validation of semi-integrated component(s) in a stimulated environment | Semi-integrated component(s)/ subsystems or processes have been validated in a simulated environmentHow the simulated environment differs from the expected operational environment and how the test results compare with expectations is understood |

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| **Pilot and Demonstration** | 6 | System and/or process prototype demonstrated in a stimulated environment | Pilot scale model or prototype developedPilot scale model or prototype system is near the desired configuration in performance, and volume but generally smaller than full scale Pilot scale prototype or model system has been demonstrated in a simulated environment How the simulated environment differs from the operational environment, and how results differed from expectations is understood |
| 7 | Prototype system ready (form, fit and function) demonstrated in an appropriate operational environment | Full scale prototype with ready form, fit and function developedFull scale prototype demonstrated in an operational environment but under limited conditions |
| 8 | Actual technology completed and qualified through tests and demonstrations | Final configuration of the technology developedFinal configuration successfully tested in an operational environmentTechnology’s ability to meet its operational requirements has been assessed and problems documented; plans, options, or actions to resolve problems have been determined |
| **Early Adoption** | 9 | Actual technology proven through successful deployment in an operational environment | The technology has been successfully deployed and proven under a full range of operational conditions Operational, test and evaluation reports have been completed |
| **Commercially Available** | Technology development is complete | The technology is openly available in the marketplace and/or has been sold in its current state of service offering for non-testing or development purposes. |

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| **Provide justification and evidence for the answer TRL above.***(Please attached relevant documents, if any – Name the document as “TRL Document”)* |
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| **C. RESEARCH DETAILS** |
| **SECTION A: Relevance to Brunei Darussalam** |
| 1. **Relevance:** *Why should Brunei Darussalam embark on this research? What problem and/or opportunity will the research address and why is it important?*
 |
| *This answer should convince the reviewer(s) that your research is vital to the interests of Brunei Darussalam.**In the description of the problem or opportunity that needs to be addressed, this may include:** *Detailed description of the problem addressed.*
* *How the problem/opportunity affects Brunei Darussalam and/or certain sectors.*
* *An overview of how the outcomes will improve conditions for Brunei Darussalam and/or certain sectors, include current statistic VS target outcome statistic.*
* *Current status of the work on the issue in Brunei Darussalam or in broader international community. Please indicate whether similar or related research is being undertaken, within Brunei Darussalam or internationally, and by whom.*

*It is an added advantage that the Applicant demonstrates that there are no restrictions to research or commercial application of outcomes in the proposed field of research. This needs to be based on a detailed review of published literature and the relevant patent literature.* |
| 1. **Objectives:** *Describe the main objectives of the research project (including potential economic and other impact on Brunei Darussalam).*
 |
| *Objectives explain what you propose to do to solve a problem or meet an opportunity that you have already researched and defined.**Objectives must be* ***SMART****:** ***Specific****: Objectives must be clear and unambiguous; what is expected, when, and how much?*
* ***Measureable****: Having objectives with measureable outputs and outcomes helps you determine if your project is successful. Milestones to indicate progress are important for monitoring the project.*
* ***Attainable****: Objectives must be realistic and attainable.*
* ***Result-oriented:*** *Objectives must help reach Brunei Darussalam’s Wawasan Brunei 2035 and fit well your institution’s priorities and work plan.*
* ***Timely:*** *Objectives should have timelines with starting points and deadlines. It must be possible to fully achieve objectives before the end of the project.*
 |
| 1. **Alignment:** Describe how the project will help achieve Wawasan Brunei 2035 and meets your institution’s work-plan or medium-term plan.
 |
| * *How does the project and its objectives align with the government’s current priorities? If ministry is involved, please state the relationship of the research to Ministerial Strategic Planning.*
* *Describe the elements of your institution’s work plan/agency’s strategic plan that the project aligns with.*
 |
| **SECTION B: Project Effectiveness** |
| 1. **Work plan:** *Provide a timeline of actions you will take to reach your objectives.*
 |
| *In the order that the actions will be performed, describe each step of the project. For each action, include:** *Details on how it will be carried out and methodology to be used (what, who, when, where, how).*
* *Details of the unique technical features of the research.*
* *Details on the involvement in the planning and implementation by various agencies/industries/institutions.*
* *Clearly identified, realistic milestones against which the project and the project team will be assessed and funding will be disbursed.*
* *Clearly described tangible outcomes or deliverables.*
* *Gantt chart outlining key activities and a critical path analysis of Project milestones.*
* *Provision for appropriate communication or technology transfer or knowledge transfer to facilitate application and commercialisation of outcomes by stakeholders.*
 |
| 1. **Risks:** *Please state the risk(s) that maybe faced in the implementation process of research and specify the action plan(s) to address the risk(s) mentioned.*
 |
| ***Risks*** *and risk management strategies need to be described for the project as a whole, and sometimes for specific actions or stages. Common risks (and possible management strategies) include:** ***Low interest*** *in participation or in using results.*

*Possible risk management strategies: ongoing consultation with agencies/industries/institutions on speakers, strategies and agendas, etc.; clear communication and “marketing strategy”.** ***Duplication*** *of work of other agency/institution*

*Possible risk management strategies: close consultation with relevant agency/institution; comprehensive research into similar projects; consultation with overseers of precursor projects.** ***Delays*** *or untimely preparation.*

*Possible risk management strategies: ongoing consultation, early engagement of stakeholders or contractors, early adoption of agenda; strict internal deadlines.* |
| 1. **Monitoring and Evaluation:** *What indicators will you use to know if the project is on track (monitoring) and successful in meeting the objectives (evaluation)? What information will you collect and how will you collect it?*
 |
| *A* ***monitoring and evaluation*** *plan should include:** ***Performance indicators****: measureable goals based on information collected, for example: participant statistics (number, gender, economies, level), stakeholders feedback (comments or grades on how well the project met its objectives), number of recommendations adopted, number of website hits, number of documents distributed, etc.*
* ***Evaluation methods****: how will you collect information to show if the project has been a success? Possible methods could include meetings, surveys, interviews, focus group discussions, observation, peer review, records or data review.*

***In developing your plan, remember that CREATES requires six-monthly monitoring reports for all research projects. CREATES also requires a completion report for all CREATES funded projects*** |
| 1. **Linkages:** *Describe the involvement of relevant stakeholders.*
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| *You need to describe the involvement of other relevant stakeholders, particularly:** ***Engagement****: Who will you engage and how will you engage them? Are they involved in planning? Will they be invited to events or will they share in project results?*
* ***Previous work****: Refer to specific projects, where possible. This will take some research, possibly through consultation with the relevant agencies/institutions. You need to show that you are building off of this work, not duplicating.*
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| **SECTION C: PROJECT EFFICIENCY** |
| 1. **Research Team:** *Who will undertake the research project and drive it to success? Please include the names and CVs of the researchers and any other main point(s) of contact responsible for this project.*
 |
| *This section should highlight the relevant track record, experience and expertise in the field of individual researchers in the team. The creation and enhancement of industry-relevant capabilities is desirable.**If you intend to directly award a contract to an organization, also provide information about your preferred consultant.roject Efficiency* |
| 1. **Cost Efficiency:** *Highlight how the project offers CREATES maximum value for money. In what ways will the project maximize the cost-efficient use of resources?*
 |
| *Descriptions should be as explicit as possible, detailing specific organisations, projects, figures, locations, etc., as relevant. This include list of the major facilities, equipment and technologies required for the project and indicate if they are already available in Brunei. If not how are they to be acquired/accessed?**If the funding is not available or limited, explains how this project will be carried out? What are the alternative options?* |

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| **SECTION D: PROJECT IMPACT** |
| 1. **Beneficiaries:** *Explain who the direct project beneficiaries are and what the intended benefits will be. Include an explanation of how the project outputs (e.g. research paper, etc.) will assist the project beneficiaries.*
 |
| *Focus on benefits that are direct and occur during your project.**Focus on* ***direct beneficiaries*** *– the people who will experience the event and the use of outputs (report, research results, etc.) in an immediate way. E.g. What type of human resource is required for this research? How will this project contribute to human resources development?* ***Do not*** *focus on indirect beneficiaries who will benefit only after the project is over and only if next steps are followed. For example, only mention the general public or end consumers as beneficiaries if there are project steps involved to implement actions that will reduce prices, raise product quality, etc.**Be as specific as possible. Detail the specific benefits and how the beneficiaries will actually use the project’s outputs.* |
| 1. ***Dissemination:*** *Describe plans to disseminate results and/or outputs of the project.*
 |
| *Plans include:** *The number, form and content of any publications*
* *The target audience*
* *Any intention to sell/commercialise outputs arising from this project.*

*The* ***target audiences*** *are those who will directly using the disseminated results or outputs. Where applicable, mention their occupations, industries, government departments etc.****Publications*** *may include reports, curricula, statistical studies or anything else that is reproduced on/as a website, CD, electronic document, hard-copy report, etc. As per the “Guide on Research Costs Items under CREATES” (Annex B), CREATES does not support the ongoing maintenance and repair costs.**If you are producing an output (e.g. a website or database), clearly explain how it will be sustained, maintained and kept up-to-date after CREATES funding ends.* |
| 1. ***Impact on Local Employment:*** *Describe how the project can create job opportunities during or after project implementation.*
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| *Descriptions should be as detail as possible;** *Include tasks and responsibilities of the new members*
* *Whether it is temporary or permanent employment*
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| **SECTION E: PROJECT SUSTAINABILITY**  |
| 1. **Sustainability:** *Describe how the project will continue to have impact after the CREATES funding is finished.*
 |
| *After project completion, what are the possible next steps to build on its outputs and outcomes? What methods or actions will you build into your project to ensure these future actions will take place?**If you determine that* ***post-implementation actions*** *are critical to sustainability, outline these recommended next stages and describe what you will do within the span of this project proposal to help ensure these future actions are taken. It is difficult to rely only on future actions if you have not also described a clear path or description of how to ensure they take place.**For any* ***possible next steps*** *mentioned, it is crucial to describe the initiatives or actions that will lead to these steps, and how your project will start, support and/or track these actions (i.e. HOW will these actions will come about). Cost implications must also be stated. Possible next steps may include the following:** *Future availability of any outputs such as reports, manuals, databases or resources (including how they will be kept up-to-date and maintained)*
* *Follow up workshop/symposium/meeting*
* *Creation of cooperative network or means of future exchange of ideas and discussion*

***Indications*** *that sustainability is likely (and that the possible next steps described above will likely to take place) may include:** *Future funds and/or partnerships that will help carry project objectives forward after project completion*
* *Future funds and/or partnerships to maintain and update project outputs such as websites, databases and resources after project completion*
* *Engagement of stakeholders: relationships developed that can carry project objectives forward*
* *Training modules and resources created and made available for wider use*
* *Demonstrated effectiveness of previous phases of the project*
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| **SECTION F: PROJECT BUDGET** |
| 1. This information is a summary of the breakdown you would provide in the Budget Breakdown Template (Appendix 2)
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| **1. BUDGET SUMMARY BY YEAR*****Please state the estimated allocation required according to the implementation progress of the research:*** |
| **Description** | **Expenses (BND)** |
| **Year 1** | **Year 2** | **Year 3** | **Total** |
| **Estimated Funding Required (BND)** |  |  |  |  |
| **Cumulative Implementation Progress (%)** |  |  |  |  |
| **2. BUDGET SUMMARY BY EXPENSE CATEGORY** |
| **Expense Category** | **Expenses (BND)** |
| **Year 1** | **Year 2** | **Year 3** | **Total (BND)** | **Justification** |
| **For all grants:** |  |  |  |  |  |
| 1. **Manpower**
 |  |  |  |  |  |
| 1. **Training**
 |  |  |  |  |  |
| 1. **Equipment, Hardware and Software**
 |  |  |  |  |  |
| 1. **Consumables**
 |  |  |  |  |  |
| 1. **Miscellaneous**
 |  |  |  |  |  |

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| **SECTION G: EXPECTED WORKDONE BY MILESTONE & PAYMENT SCHEDULE** |
| 1. The project Payment schedule is as follows:
* Progress Payments (divided into payments according to key measurable and tangible milestones)
* Final Payment (10%)

*In the* ***table below****, please state your suggested payment schedule according to milestone (Please edit, add or remove deliverables based on your project).**In the* ***excel sheet “Annex C – Section G: Expected Work Done Details”****, please fill in details and specification breakdown of each Milestone (Please edit, add or remove breakdowns based on your project).* |
| **No.** | **Expected Work Done by Milestone** | **% of Total Project Scheme Value** | **Payment in BND** | **Delivery Date***(Time in terms of To + X months and year)* |
| **I** | **Progress Payments (According to Milestone Deliverables)***(please list down according to your project-specific milestones)* |
| **1** | ***E.g. Milestone #1:****Down-selection of compound X with highest efficacy out of candidate compounds in Family Y* | *E.g. 20%* | *20,000.00* | *To + 3 months**( July 2022)* |
| **2** | ***E.g. Milestone #2:****Development of stable drug-delivery compound with stably-bound compound X* | *E.g. 20%* | *20,000.00* | *To + 9 months**(Jan 2023)* |
| **3** | ***E.g. Milestone #3:****Completion of Efficacy trials* | *E.g. 30%* | *30,000.00* | *To + 12 months**(April 2023)* |
| **4** | ***E.g. Milestone #4:****Proof of efficacy of drug-delivery compound with compound X* | *E.g. 20%* | *20,000.00* | *To + 15 months**(July 2023)* |
| **II** | **Final Progress Payment** | ***10%*** | *10,000.00* | *To + 16 months**(August 2023)* |
| **TOTAL** | ***100%*** | *100,000.00* |  |

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| **SECTION H: ANY OTHER KEY PERSONNEL** |
| **Please list out any other key personnel directly involved***(Other than the Principal Investigator / Co-Principal Investigators - Add more fields as required to reflect the personnel)* |
| **Key Personnel 1** | **Title***(Mr / Ms / Mrs / Dr /Prof or other)* |  |
| **Full Name:** |  |
| **Position & Organisation:** |   |
| **Identification Type:***(Select response)* |  | **Passport** |
|  | **Bruneian National Identify Card** |
| **Identification Number:** |  |
| **Address:** |  |
| **E-mail:** |  |
| **Phone:** |  |
| **CV Attached?** *(Select response)**(Please ensure CV is submitted)* |  | **Yes** |
|  | **No** |
| **Key Personnel 2** | **Title***(Mr / Ms / Mrs / Dr /Prof or other)* |  |
| **Full Name:** |  |
| **Position & Organisation:** |  |
| **Identification Type:***(Select response)* |  | **Passport** |
|  | **Bruneian National Identify Card** |
| **Identification Number:** |  |
| **Address:** |  |
| **E-mail:** |  |
| **Phone:** |  |
| **CV Attached?** *(Select response)**(Please ensure CV is submitted)* |  | **Yes** |
|  | **No** |

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| **ELIGIBILITY** |
| I acknowledge that I am aware of the eligibility requirements for applying this CREATES Basic Research Fund / CREATES Applied Research Fund and certify that, to the best of my knowledge my application is in compliance with all these requirements. I understand that my proposal may be declared ineligible at any point during the evaluation or granting process if it is found not to be compliant with these eligibility criteria.\* |  |