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**MINISTRY OF SCIENCE, TECHNOLOGY AND INNOVATION,
MALAYSIA**

**SCIENCEFUND
GUIDELINES FOR APPLICANTS**

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CHAPTER 1: INTRODUCTION TO SCIENCEFUND

1.0 DEFINITION OF SCIENCEFUND

ScienceFund is a grant provided by Government to eligible entities to carry out R&D projects that can acquire and generate new knowledge in strategic basic and applied sciences.

1.1 OBJECTIVES OF SCIENCEFUND

The objectives of ScienceFund are as follows:

- (i) to support R&D projects that can develop new products or processes necessary for further development and commercialisation in specific research clusters (RC); and
- (ii) to generate science-based knowledge through research and enhance skills as well as expertise among researchers in Malaysia.

The outcome of research under ScienceFund which has commercial potential can be considered for additional funding under the TechnoFund.

1.2 RESEARCH CLUSTER (RC)

ScienceFund focuses on five (5) main clusters which include:

- Information and Communication Technology (ICT);
- Biotechnology;
- Industry;
- Sea to Space; and
- Science & Technology Core.

1.3 ELIGIBILITY CRITERIA

The following entities are eligible for ScienceFund:

- Research Institutions (RIs) and Institutions of Higher Learning (IHLs) in the public sector;
- IHLs and RIs in the private sector;
- Government Science, Technology and Innovation (STI) Agencies; and
- Expatriats working under contract with any of the above institutions.

Note: Private sector entities can participate in collaboration with the above mentioned institutions.

Local scientists or expatriates working under contract must furnish contractual documents as proof of employment during the period of the project duration.

The following entities/ projects will not be eligible for ScienceFund:

- Leading to the role, responsibility and portfolio of certain Ministry / Department / Agency;
- from Research Wings of Government Linked Companies (GLC);
- from Research Institutes with internal research funding such as CESS Fund;
- from large and established companies; and
- research in Science Social studies.

1.4 PROJECT DURATION

ScienceFund fund has a ceiling value up to RM 500,000 per proposal for a period of research. The projects are as follows:

- (i) up to a maximum of 18 months for the ICT cluster; and
- (ii) maximum of 24 months for the other clusters.

1.5 TYPES OF RESEARCH

ScienceFund supports the following types of research:

Strategic Basic Research

Experimental and theoretical research undertaken to acquire new knowledge which is directed into specified broad areas for useful discoveries. Strategic Basic Research provides broad-based knowledge to address identified problems and suggests practical solutions.

Applied Research

Original work undertaken primarily to acquire new knowledge in view of specific application. It is undertaken either to determine possible use for the findings of basic research or to determine new ways of achieving some specific and predetermined objectives.

1.6 SCOPE OF FUNDING

The scope of funding under ScienceFund covers preliminary stage of research undertaken to laboratory proof of concept. The quantum of funds approved will be determined based on the merits of each application.

The funding (based on calendar year) can be utilised for the following categories:

Wages and Allowances for Temporary and Contract Personnel (V11000)

- Includes wages and allowances for temporary and contract personnel who are directly engaged in the project. Only three (3) temporary or contract personnel are allowed for each project.
- Allocation cannot be used for study fees. The maximum wages/allowances for temporary or contract personnel is up to RM 2,300 (Degree), RM 2,500 (MSc) and RM 2,800 (PhD) per month.

Travel and Transportation (V21000)

Includes travel and transportation expenses for domestic and overseas trips which are directly related to the project.

Overseas trips must meet the following criteria:

- Attending conferences, seminars or workshops to present the results of the project;
- conducting a portion of the required research when domestic facilities and expertise are inadequate;
- The venue for the above must be suitable in terms of facilities, expertise and technology transfer; and
- During the duration of the project, the project leader/co-researcher is allowed to go on an overseas trip only once.
- Travel is limited to economy class using the shortest direct routes. Travel is only allowed on MAS or Air Asia carrier except under extenuating circumstances.

Note: Expenses related to overseas trips will be funded under the ScienceFund up to a maximum 15% of the total expenses of the project or RM30,000, whichever is less.

Rentals (V24000)

Only rental expenses for building space, equipment, transportation and any other items directly related to the project should be included. Rental of vehicles for the purpose of transportation must be from a licensed transport company.

Research Materials and Supplies (V26000)

Only expenses for research materials and supplies directly related to the project should be included.

Minor Modifications and Repairs (V28000)

- Only expenses for minor modifications and repairs of the laboratory, equipment or any other items directly related to the project should be included.
- The maintenance costs of existing equipment used during the duration of project period should also be included.
- The cost of maintenance of any equipment purchased will not be borne by ScienceFund after the project is completed.

Special Services (V29000)

§ Services directly related to the project such as consultancy, payment for enumerators, usage of computer facilities, chemical analysis, data processing and patent registration.

- Engagement of foreign expert(s) will be considered on a case-by-case basis.

R&D Equipment and Accessories (V35000)

- Special equipment and accessories purchased, including accessories to upgrade the capability of existing equipment directly related to the project.
- Funding for special equipment and accessories is up to a maximum of 40% of the total project expenses.

1.7 VARIATION IN PROJECT COSTING

Requests for variations in funding after a project has been approved, must be made to the ScienceFund Secretariat for approval using the

Progress Report. The variation is only considered for the current financial year. Please refer to Guidelines on Variation.

1.8 NON QUALIFYING PROJECT ACTIVITIES

Scientific and technical information services such as collecting, coding, recording, classifying, disseminating, translating, analyzing, evaluating, bibliographic services, scientific and technical information extension advisory services and compilation of data, are excluded from the main activities of the project except when they form an integral part of the project. In such a case, applicants must provide a statement indicating the research objectives to which the data would contribute.

1.9 PROJECT EXTENSION

Requests for project extensions must be made to MOSTI 3 months before completion date of the project using the Progress Report. The maximum extension period is not more than 6 months.

1.10 NOTIFICATION OF RESULTS

The results of applications will be notified, through the e-ScienceFund system, to applicants within 7 working days after the convening of the Fund Approval Committee Meeting.

1.11 ACCEPTANCE OF OFFER

Applicants must accept or decline the offer through the e-ScienceFund system within 14 days after notification.

1.12 SCIENCEFUND AGREEMENT

The Head / CEO of institution is required to sign the ScienceFund Agreement within 14 working days upon acceptance of the approved projects.

1.13 OWNERSHIP AND USE OF R&D EQUIPMENT

All R&D equipment purchased under the project will belong to the project entity/institution. The maintenance of such equipment should be borne by institutions. However, such equipment is not for the sole use of the entity/ institution, and ought to be shared with other research organizations.

1.14 INTELLECTUAL PROPERTY RIGHTS

Ownership and management of IPR, royalties and any other form of fees received by the institution resulting from technology transfer, licensing of technology or any other form of commercialisation, shall be governed in accordance with the terms and conditions outlined in the ScienceFund Agreement.

1.15 PUBLICATIONS

Researchers should only publish their research findings after all measures in protecting IPR have been adhered to.

All publications must indicate and acknowledge MOSTI as the source of funding.

1.16 MONTHLY FINANCIAL REPORT

Each institution is required to submit to MOSTI a Monthly Financial Report of all approved projects in digital file (excel format) as shown in Table 1. The purpose of this report is to enable MOSTI to submit an overall monthly financial report to the Ministry of Finance.

Table 1: Summary of Monthly Financial Report

Ref	Project No	Allocation Received from Previous Year (if any) (a)	Current Year Allocation (b)	Total of Allocation Received (a+b)	Temp. & Contract Personnel V11000	T & T V21000	Rentals V24000	Research Materials & Supplies V26000	Minor Modifications & Repairs V28000	Special Services V28000	Special Equipment & Accessories V35000	Total Spent (c)	Balance c-(a+ b)
1													
2													

CHAPTER 2: PROJECT APPLICATION

2.1 TYPES OF APPLICATION

ScienceFund allows for two types of application, namely:

Applicant Initiated Project (AIP)

Researchers can apply for funding under the five research clusters.

Request For Proposal (RFP)/ Competitive Bidding

Researchers will be invited to bid for research funding on specific areas of research, identified as priority research. The list of projects open for bidding will be announced from time to time.

2.2 APPLICATION PROCESS

Application for ScienceFund must be made online through the website <http://ernd.mosti.gov.my/eScience>

Please refer to the eScienceFund User Manual for further instructions.

2.3 APPLICATION SUBMISSION

Application can be submitted throughout the year.

2.4 APPLICATION FORM

This section of the Guidelines is for filling in the ScienceFund Application Form.

Project Number

The project number is defined by the research cluster, institution's category, institution's name and serial number. It will automatically be generated by the eScienceFund system once the proposal is submitted to the MOSTI. Prior to this submission, the system will allocate a temporary project number. The coding structure is as shown in Figure1.

Figure 1: Coding Structure for Project Number

XX	XX	XX	SFXXXX
Research Cluster	Institution Category	Institution Name	Serial Number

Note: SF stands for ScienceFund

Example: The project number *01-01-04-SF0001*.

- 01** – refers to the ICT cluster,
- 01** – refers to Public Institution of Higher Learning
- 04** – refers to UPM
- SF0001** – refers to the project serial number.

For research cluster (RC) codes, please refer to Table 3, and the institution’s category and codes in the Appendix 1.

Table 3: Research Cluster (RC) Codes

Code	Research Cluster
01	Information and Communication Technology (ICT)
02	Biotechnology
03	Industry
04	Sea to Space
05	S&T Services

Project Title

The title should be concise, clearly indicating the subject of the research and reflecting the key idea(s) of the project.

Project Objectives

This section describes the measurable objectives of the project and defines the expected results.

Research Background

The research background should cover the following elements:

- The major issues and problems to be addressed by the research.

- Research necessity and importance.
- Variables and parameters of the research.
- Hypothesis or theory, if any.
- Setting the limits or boundaries of the proposed research in order to provide a clear focus.

The literature review should be addressed in this section to meet the requirements below:

- The application must be novel (should not "reinvent the wheel").
- Demonstrates knowledge of the research problem.
- Demonstrates understanding of the theoretical and research issues related to the research question.
- Critically analyses, integrates and synthesises the relevant literature information.

Socio-economic objectives (SEO)

The socio-economic objectives (SEO) represent the purpose or sectoral beneficiaries for which R&D activities are conducted. The SEO classification allows for a systematic analysis of R&D funding at three different levels under the SEO Divisions. There are 5 SEO Divisions, namely Defence, Economic Development, Society, Environment and Advancement of Knowledge.

The appropriate divisions will determine the SEO Classification that best describes the beneficiary group of the project from the Malaysian Research and Development Classification, 5th Edition or the latest edition. To classify the research project, please use the following definitions:

- **SEO Category**

The SEO Category describes the sector of the national economy for which it will be the main beneficiary of the R&D being practised.

- **SEO Group**

A sub-division under the SEO Category, which groups socio-economic activities that have common characteristics.

- **SEO Area**

A sub-division under the SEO Group, which represents a specific area of research.

Fields of Research (FOR)

The fields of research (FOR) represent R&D activities classified according to their scientific and academic disciplines. Please choose the FOR classification which most appropriately describes the scientific discipline being practised. Please select the FOR from the Malaysian Research and Development Classification, 5th Edition according to the following:

- **FOR Category**
A sub-division of scientific or academic disciplines.
- **FOR Group**
A sub-division under the FOR Category.
- **FOR Area**
A specific discipline within FOR Group which describes a science or a technology area.

Research Approach

- **Research Methodology**

The research methodology demonstrates how the applicant plans to tackle the research problem. It should have details of the analytical techniques, research design and description of research activities. Specialised equipment, facilities and infrastructure, whether new or existing, required for the project, should also be identified at this stage.

The applicant should compare the methodology with alternative methods and justify that the approach chosen is the most appropriate.

- **Project Activities**

It will provide the work plan and the list of the activities necessary for the project, including those associated with the transfer of the research results to customers / beneficiaries. It should also outline the sequence of the proposed activities and identify them in numbered stages, steps or phases.

The research activities as well as the timing and duration will be reflected in the Gantt chart.

- **Milestones**

A milestone is achieved when a significant phase in the project is reached, for example completion of testing, commissioning of equipment, etc. There must be at least 2 milestones per calendar year. The first milestone at the start of the project is optional while the last milestone denotes the end / completion of the project.

The timing of the milestones will be reflected in the Gantt chart.

- **Risk of the Project**

Describe the factors that may cause delays or prevent implementation of the project as proposed. Give an estimate on the degree of risk.

Benefits of the Project

- **Output Expected**

The output expected varies amongst the different types of research.

For **strategic basic research** projects, use the following list of outputs:

- Hypotheses
- Theories
- Algorithm
- Structure
- Data
- IPR

For **applied research** (*technology development*) projects, use the following list of outputs:

- Method / technique
- Demonstrator / prototype
- New / improved product / device
- New / improved process
- New / improved software
- New / improved material
- New / improved service
- IPR

- **Human Capital Development**

The indicators are as follows:

- Post doctorate
- Doctorate
- Master
- Bachelor
- Research staff with new specialisation

- **Economic Contribution**

The indicators are as follows:

- Sales of manufactured product / device / equipment
- Royalties from licensing
- Revenue from consultancies
- Cost savings
- Time savings
- Others

- **Infrastructural contribution**

The indicators are as follows:

- New equipment
- New / improved facility
- New information networks
- Others

Research Collaboration

The collaboration is in the form of sharing of expertise and research facilities, marketing opportunities and other related research resources. Details on the role of key collaborators should be provided. Such commitment should be substantiated by documentation proof such as memorandum of agreement, letter of consent or any other form of agreement.

For the project team, state all the collaborators involved based on their roles and time allocated. The man month of the project team will be automatically calculated based on the staff cost estimation worksheet.

Project Schedule

The project schedule is automatically generated based on the research activities and milestone.

Staff Cost Estimation

The computation of daily rates for individual researchers or research staff is done according to the following formula:

$$\text{Daily Rate} = \frac{\text{Emolument}}{\text{Annual Working Days}} \times \text{Research Utilisation Factor}$$

Where:

- **Emoluments** include:

- Annual basic salary
- EPF contributions by employer
- Performance bonuses
- Allowances

- **Annual working days** are computed by deducting the total days in the year (365) with the following number of days:

- Rest days (Saturday and Sunday)
- Vacation
- Public holidays

- The **research utilisation factor** is calculated as follows:

$$\text{Research utilisation factor} = \frac{\text{Annual days on research projects and activities}}{\text{Annual days on research projects}}$$

The research factor ensures that time spent on activities which are *not project specific* (e.g. training, attendance of conferences, administrative tasks related to research proposals, recruiting of research staff, etc) is reflected in the daily rate.

Project Funding

In addition to the ScienceFund, the applicants have to indicate and specify which of the following funding sources may provide funding for the project.

- Domestic funding sources:

- Other Government Funding Schemes;
- Internal Funding;
- CESS Fund;
- Industry sources;
- Others; please specify

- International funding sources:

- World Bank
- Asian Development Bank (ADB)
- United Nations Development Programme (UNDP)
- Others; please specify

Summary of Relevant Past Research Project

Applicants should provide a summary of past research, if any, which has relevance to the proposed research.

Contractual obligations under this project

Applicants must indicate any contractual obligations with third parties.

Ownership of intellectual property rights

Applicants must indicate the organisation(s) that will own the intellectual property rights that may arise from this project.

CHAPTER 3: PROJECT EVALUATION

The project evaluation consists of Institutional Screening, and Technical and Financial Evaluation before it is submitted to Fund Approval Committee.

3.1 INSTITUTIONAL SCREENING

All applications are to be screened by the Institutional Screening Committee to ensure that the applications conform to the ScienceFund requirements.

The Institutional Screening Committee is required to assess various technical aspects of the research proposal using the Institutional Screening Form. It should also ensure the project leader and research team are technically competent, the project costs are fair, and there is optimal utilisation of available research equipments and infrastructure.

The Institutional Screening Committee must ensure that ethical clearance related to the research project has been obtained from the relevant authority. The Institutional Screening Report should be submitted online via <http://emnd.mosti.gov.my/eScience>

3.2 TECHNICAL AND FINANCIAL COMMITTEE

All applications will be further evaluated by the Technical and Financial Committee. The committee will study the proposals based on the merits of the research objectives, appropriateness of research methodology, ability of researchers and the cost effectiveness of the proposal.

The Chairman and members of the Technical and Financial Evaluation Committee are appointed by the MOSTI. Members of this committee consist of experts from the public and the private sectors. However, additional experts, including international peer reviewers can be invited as and when necessary, to assist in the evaluation.

3.3 FUND APPROVAL COMMITTEE

Projects evaluated by the Technical and Financial Committee are then submitted to the Fund Approval Committee for final assessment.

The Fund Approval Committee is chaired by the Secretary-General of MOSTI. The members consist of the Chairman of the 5 Technical and Financial Committees, permanent representatives from Central Agencies, industries, as well as appointed members from the relevant Ministries / Government Departments / IHL.

Any decision made by the Fund Approval Committee is final. An unsuccessful proposal may be resubmitted only after the revision takes into account the comments and concerns of the Committee. The resubmitted application will be treated as a new proposal and subject to the standard evaluation.

CHAPTER 4: DISBURSEMENT OF FUND

4.1 INITIAL DISBURSEMENT

The project allocation for the first year allocation will be disbursed to the relevant institutions within one month of the return of the signed ScienceFund Agreement to MOSTI. In cases where the first year duration is 3 months or less, the disbursement will include the first and second year allocations.

4.2 PROGRESS PAYMENT

The subsequent disbursement will be made on the recommendations of the Cluster based on the progress report.

CHAPTER 5: PROJECT IMPLEMENTATION AND MONITORING

5.1 PROJECT IMPLEMENTATION

All projects funded by the ScienceFund must be conducted in accordance with the terms and conditions outlined in the ScienceFund Agreement.

The projects will be closely monitored to ensure that they are carried out successfully. Through the Institutional Coordinator, researchers are required to submit the following reports:

Progress Report (PR) – quarterly basis

End of Project Report (EPR) – 3 months after the completion of the project

The reports will be reviewed by the Project Management Team (PMT) and recommendations made to MOSTI through the:

Progress Assessment Report (PAR)

Outcome Assessment Report (OAR)

5.2 PROGRESS REPORT (PR)

The Progress Report is a quarterly report to be submitted to MOSTI. The deadlines for submission are 31 January, 30 April, 31 July and 31 October, each year. Failure to submit the Progress Report by the stipulated dates may result in suspension of the progress payments.

The report can also be used to apply for changes in:

milestone;
project schedule;
budget; and,
methodology

The Progress Report can be submitted through <http://ernd.mosti.gov.my>

5.3 PROGRESS ASSESSMENT REPORT (PAR)

The Progress Report will be used to assess the overall progress of the project and to determine its future direction as well as disbursement of any payment due.

Progress assessment will be carried out by the Project Management Team (PMT) and the recommendations made to MOSTI through the Progress Assessment Report.

In addition to reviewing the above report, MOSTI may, from time to time, conduct on-site monitoring of projects and colloquiums.

5.4 END OF PROJECT REPORT (EPR)

Researchers are required to submit through the Institutional Coordinator, an End of Project Report within 3 months of project completion. The End of Project Report is to be submitted online.

The End of Project Report requires the following information:

- Direct outputs of the project;
- Extent of achievement of the original project objectives;
- Technology transfer and commercialisation approach;
- Benefits of the project, particularly project outputs and organisational outcomes; and
- Assessment of the project team, research approach, project schedule and project costs.
- Sectoral / national impacts of the project.

5.5 OUTCOME ASSESSMENT REPORT (OAR)

The purpose of the Outcome Assessment Report is to assess / review the End of Project Report submitted.

Project Management Team can recommend for further funding from other sources for projects that have commercial potential.