e-ASIA Joint Research Program (the e-ASIA JRP)
Research Cooperation in the field of
"Advanced Interdisciplinary Research towards Innovation"
on the topics of "Greener Digital Cities"
11th Joint Call for Proposals to be submitted by 30 March 2022

The e-ASIA Joint Research Program (hereinafter referred to as the "e-ASIA JRP") aims to develop a vibrant and collaborative research community in Science and Technology, to promote innovation in the East Asian region, and to contribute to the region's economic development. As part of the program, the Member Organizations of the e-ASIA JRP listed below have agreed to implement a joint call for proposals of multilateral cooperative research activities.

Participating Member Organizations (listed in alphabetical order)

1) Japan: Japan Science and Technology Agency (JST)
2) Myanmar: Ministry of Science and Technology (MOST)
3) Philippines: Department of Science and Technology (DOST-PCAARRD)/ (DOST- PCHRD)/ (DOST-PCIEERD)
4) Thailand: National Research Council of Thailand (NRCT)

I. Aim of Joint Call and Research Area

The aim of the Joint Call is to strengthen multilateral collaboration among researchers of the countries participating in the call and to solve issues common across the region, in the area of "Greener Digital Cities" in the field of "Advanced Interdisciplinary Research towards Innovation".

Background

"Advanced Interdisciplinary Research towards Innovation" was defined as one of the seven major topics for the e-ASIA JRP when it started in 2012. "Intelligent Infrastructure" was chosen as the driving force of the interdisciplinary research. After two workshops in 2013 and 2014 on intelligent infrastructure, transportation, energy and water are confirmed to be three fundamental problems in the participating countries. The first Joint Call on this topic was issued on intelligent transportation infrastructure in 2015. The second was announced on intelligent energy infrastructure in 2017. The third was announced on water resource management in 2019.

These days pandemic and environmental issues have been recognized to be even more fundamental factors in infrastructure. The SDGs have also become a recent major global concern for infrastructure as well. In order to enlarge the e-ASIA intelligent infrastructure to adapt all those recent issues, a working group “Greener Digital Cities” was established following an agreement in the board meeting of e-ASIA in August 2021. It held the first workshop on “Greener Digital Cities” in November, followed by a Joint Call on “Greener Digital Cities”.

Research Area

“Advanced Interdisciplinary Research towards Innovation”, one of the seven research fields of e-ASIA JRP, has been using a subtitle “Intelligent Infrastructure” as a driving force of interdisciplinary research since 2012 when e-ASIA started. An observation was made that infrastructure has three fundamental functions in both ancient Rome (where the concept of infrastructure started) and modern Asia. These are (1) to sustain human lives, (2) to sustain communities, and (3) to sustain civilization. In the e-ASIA intelligent infrastructure research in the past, the function to sustain human lives was represented by intelligent infrastructure of water, to sustain communities was represented by intelligent infrastructure of transport, and the function to sustain civilization was represented by intelligent energy infrastructure. For these three areas, five joint research projects by fifteen teams in six countries were adopted so far.

Recently, (0) to sustain human environment is often positioned above (1)-(3). To make this clear, a new concept of “Greener Digital Cities” is introduced this time in the intelligent infrastructure of e-ASIA. The research on Greener Digital Cities will cover not only the areas of water, transport, energy, but also the areas of healthcare, food or agriculture, and waste management to sustain human lives, data communication to sustain communities, and Fintech area to sustain civilization. Under COVID-19, healthcare is a significant global concern. Food or agriculture was recognized as essential to be included in this field as a result of an e-ASIA board meeting. Waste management has been requested by many Asian cities to be the fourth fundamental area after water, transport, and energy. Data communication is more important than transport under the current pandemic to sustain human communities. Currency has been a fundamental infrastructure since ancient Rome, and now we are experiencing substantial fintech innovation through digital technology. All these areas will be fundamental to sustain the human environment.

Using all or some of these areas for “Greener Digital Cities”, “Advanced Interdisciplinary Research towards Innovation” continues to pursue three interdisciplinary technologies for “Intelligent Infrastructure”. The first technology is analysis and modeling of natural and social environments surrounding the infrastructure in the real world. Natural science and social science, remote sensing, sensor networks, IoT, image recognition, data mining, analytics, statistics, mathematics for greener digital cities will play big roles here. The second technology is simulation and optimization of infrastructure models in the cyber world. Artificial intelligence, information science, computer science, high performance computing, computational complexity, computational geometry for greener digital cities will play big roles here. The third is the technology for implementing optimized from the cyber world in the real world. Urban planning, business science, engineering science, scientific engineering, arts for greener digital cities will play big roles here.

The research areas of “Greener Digital Cities” are, but not limited to:
intelligent infrastructure for
1. transport
(e.g. public transportation, EVs, logistics, mobility inside buildings, navigation of pedestrians for greener digital cities)
2. energy
(e.g. renewable energy, grids, EV charge stations, lightings, HEMS, CEMS, BEMS for greener digital cities)
3. water
(e.g. water supply, sewerage, dam management, flood mitigation, irrigation for greener digital cities)
4. healthcare
(e.g. anti-pandemic, air quality, quality of life, optimal ageing society, mental health, e-health for greener digital cities)
5. food or agriculture
(e.g. ICT for farm production of food and/or biomass, remote surveillance of farm disease, ICT for farm products chain for greener digital cities)
6. waste management
(e.g. recycling, garbage incineration, renewable plastic to reduce marine waste for greener digital cities)
7. data communication
(e.g. 5G/6G, mobile networks, data free flow with trust, city operating system for

greener digital cities)
8. fintech
(e.g. blockchain, sustainable finance, financial mechanisms to close a sustainable infrastructure investment gap for greener digital cities)
9. combination of all or some of the above 1-8
(e.g. the SDGs, zero emissions, life cycle assessment of infrastructure, urban planning, resilience, security, green building for greener digital cities)

The technologies for “Greener Digital Cities” are, but not limited to:
digital technologies of
1. analysis and modeling of natural and social environments surrounding the infrastructure in the real world
(e.g. natural science, social science, remote sensing, sensor networks, IoT, image recognition, data mining, analytics, statistics, mathematics for greener digital cities)
2. simulation and optimization of infrastructure models in the cyber world
(e.g. artificial intelligence, information science, computer science, high performance computing, computational complexity, computational geometry, for greener digital cities)
3. implementation of optimized models in the real world
(e.g. urban planning, business science, engineering science, scientific engineering, arts)
4. combination of all or some of 1-3.
(e.g. international standardization of smart city indexes, operating system for smart city)
to contribute to making digital cities greener.

Note that proposals of technologies accompanied by social sciences are welcome. However, proposals for social science research without technological contribution will not be accepted.

Researchers in the countries of participating Member organizations are invited to submit multilateral projects in the mentioned thematic areas, which correspond to the United Nations’ SDGs “Sustainable Development Goals”.

Research Approach

The e-ASIA JRP presents a research collaboration opportunity for researchers, as it offers access to funding and other resources to support multi-investigator

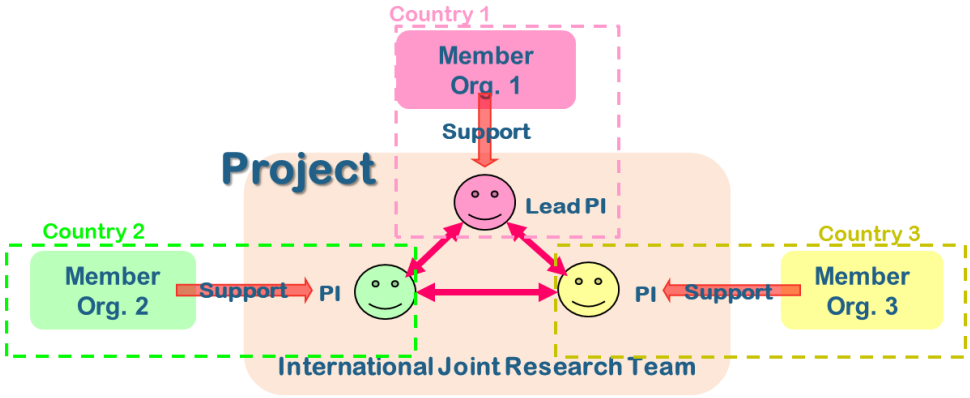
research engaging scientists in 5 countries in this call. To effectively utilize and maximize the unique opportunities provided through the e-ASIA JRP and to synergistically address various environmental issues/problems in East Asia, proposals that include the following integrated research approaches are strongly encouraged:

- Interdisciplinary research
- Training, mentorship, and career development of early-career (early-stage) investigators
- Communication, information and data exchange
- Sample/data sharing and analysis
- Capacity building
- Entrepreneurship
- Community and stakeholders' engagement
- Commitment to long-term sustainability
- Establishment and maintenance of networks of collaborating institutions

Collaborative research projects, supported through this program, should be pursued through mutually beneficial partnerships and shared leadership that contribute to scientific innovation, research capacity and social applicability in the region. The study findings from the e-ASIA JRP projects should be disseminated to expand scientific knowledge and facilitate the utilization of the research results to enhance evidence-based environmental practice in East Asia and in other parts of the world.

II. Support/ Funding Modality

In principle, each Member Organization will support its own country's researchers in research projects selected for funding through this joint call with the type of support available as defined under "Funding Modality" in the table below. The duration of a selected research project will be three years (36 months), in total, from the start date. Details of conditions of support will vary by Member Organization. Applicants should carefully consider information included in the Appendix for each Member Organization's rules and regulations.



Participating Member Organizations and Funding Modality

Participating Member Organizations	Funding Modality
(1) Japan: Japan Science and Technology Agency (JST)	New
(2) Myanmar: Ministry of Science and Technology (MOST)	In-Kind
(3) Philippines: DOST-PCAARRD DOST-PCHRD DOST- PCIEERD	 New New New
(4) Thailand: National Research Council of Thailand (NRCT)	New

New: Each Member Organization will support a selected project by new funding

Re-budgeting: Funds already allocated to an existing project by each Member Organization will be reallocated to the e-ASIA JRP

In-kind: Each Member Organization does not provide budget for a selected project. A researcher participating in a selected project will use funds that are already available, but no additional fund will be provided by each Member Organization. In principle, at least one country must participate via “new” or “re-budgeting” funding modality. In other words, proposals cannot be accepted if all the applicants intend to participate through an “in-kind” basis.

II. Application

In addition to the following common requirements, there are specific rules clarified by each Member Organization. For specific rules by each Member Organization, please refer to the Appendix or consult the person noted in Section VI.

III-1. Applicant/ Project Consortium

A project consortium must consist of at least three eligible research teams from at least three different participating countries listed above.
Each research team shall be led by a Principal Investigator (PI), and a consortium shall be led by a Lead Principal Investigator (Lead PI) specified among the PIs.

The Lead PI will be responsible for running and managing the project. The Lead PI will be the contact point with the e-ASIA JRP Secretariat on behalf of the whole consortium and is responsible for the administrative management of the complete project, should it be awarded supporting. In addition, the Lead PI is responsible for leading the project activities at his/her own institution. The Lead PI must be affiliated with an institution situated in the home country of one of the Member Organizations participating in this call.

All PIs must fulfil their respective domestic eligibility rules for research application. Researchers from industry are encouraged to participate in the collaboration in accordance with domestic eligibility rules. PIs should contact the person noted in Section VI for information on their respective domestic eligibility rules.

III-2. Proposal Submission

Proposals must be submitted from the Lead PI by e-mail to the e-ASIA JRP Secretariat at the e-mail address specified below. Applications shall be written in English.

Deadline for Submission:
17:00 (Thai Standard Time, UTC+7) 30 March 2022

Please submit the proposal to:

Ken Kawabata (Mr.)
e-ASIA JRP Secretariat
E-mail: easia_secretariat@jst.go.jp

Note1: The e-ASIA JRP Secretariat will send a confirmation email to the Lead PI to confirm receipt of his/her proposal. In case the Lead PI does not receive a confirmation e-mail from the e-ASIA JRP Secretariat within one week, they should contact the e-ASIA JRP Secretariat at the address above. The e-ASIA JRP

Secretariat does not assume any responsibility for delay or error in e-mail delivery.
Note2: Application forms sent by any method other than e-mail, such as post, fax or telex will be rejected.

< Important Notice to ALL PIs >

Make sure to submit all necessary application documents requested by each Member Organization of your country, in addition to the application to the e-ASIA JRP Secretariat (submitted by Lead PI only), because each Member Organization may request applicants of its country to submit another form of proposals with another deadline date. Proposals shall satisfy both common requirements written in this call guideline and individual requirements requested by each Member Organization. A research team that does not satisfy individual requirements of the Member Organization of your country will not be deemed as eligible research team.

For individual requirements by each Member Organization, please refer to the Appendix or consult the person noted in Section VI.

The proposal shall include:

a) Project description including how the collaboration will be carried out, with clear statements of what roles each country's researchers will play respectively in the project;
b) Description of the expected outcomes of the proposed project, scientifically as well as in terms of relevance for industry and society;
c) Description of the ongoing activities and specific advantages of each group respectively, which form the basis for the proposed joint project;
d) Description of the expected value added from the proposed joint project, including how the competence, technology and other resources in each group complement each other;
e) Description of how the project is expected to help strengthen multilateral research collaboration over the longer term;
f) Description of the expected value added from the multidisciplinary approach in the proposed joint project; and
g) Description of how the proposed joint project interacts with or impacts other comparable activities worldwide.

III-3. Application Forms

Researchers should prepare the following application (proposal) forms in English ("E").

For further requirements by each Member Organization, researchers shall refer to the Appendix or shall consult each Member Organization of his/her country.

Form 1E	Application outline (title, acronym, general description and proposed period of cooperative research project)
Form 2E	Summary of the project
Form 3E	Research leaders' information (their CVs*)
Form 4E	Research team (list of individuals committed to the cooperative research project in each country)
Form 5E	Description of the cooperative research project
Form 6E	Research networking plan
Form 7E	Plan to nurture early career researchers
Form 8E	Budget plan for the project
Form 9E	Research infrastructures and funds from other sources

** The description of Curriculum Vitae (CV) from each PI shall include basic information on education, past and present positions, membership of relevant organizations/associations and a publication list in the past 5 years.*

In addition to the documents above, all projects must comply with ethical review and requirements of each Member Organization, especially for research activities related to human and animal subjects. PIs shall refer to the Appendix for each Member Organization's ethical requirement.

IV. Evaluation

IV-1. Evaluation Process

A proposal will be evaluated at each relevant Member Organization of the project consortium, according to the evaluation criteria clarified in the following subsection.

Based on the results of the evaluation conducted at each Member Organization, a final decision will be made at the joint panel meeting among the participating Member Organizations, followed by approval at the e-ASIA JRP Board Meeting.

IV-2. Evaluation Criteria

Proposals will be evaluated according to the following common e-ASIA JRP

evaluation criteria, incorporated with evaluation criteria clarified by each Member Organization. For the evaluation criteria clarified by each Member Organization, please refer to the respective Appendix or consult each respective Member Organization.

1) Regional Relevance of the Research
The research activity should contribute to:

- The advancement of scientific discovery;
- The development of science and technology in the region; and
- The resolution of significant relevant issues across the region.

2) Mutual Benefits of the Joint Research
Activities of mutual benefit to the collaborators and their institutions are desirable. Mutually beneficial in the sense that the projects utilize unique opportunities the e-ASIA JRP will provide that could not be achieved either through bilateral or individual research but only through multilateral cooperation.

3) Effectiveness of Exchange
The project should:

- Contain activities to nurture early career researchers through research activities;
- Contain activities to engage female researchers where strengthening capacity is needed; and
- Enhance research capacity in the region.

IV-3. Notification of the Final Decision

The Lead PI will be notified the final decision by the e-ASIA JRP Secretariat as soon as the final decision is taken and approved by all Member Organizations in the e-ASIA JRP. (Approximate implementation of the notification: End of November 2021)

V. Project Implementation

Project reporting will be in accordance with the respective Member Organization's rules. Please contact respective Member Organizations for more details.
In addition to the Member Organization's requirements, the consortia are expected to deliver Progress Reports and Final Reports to the e-ASIA JRP Secretariat, in English, including a description of their collaboration and a publishable summary of the project status. The Progress and Final Reports will

be reviewed by the Board and Scientific Advisory Council. It is also encouraged that the project proactively disseminates its achievements to the public.

V-1. Progress Report

In the middle of research period (i.e., after one and a half year), the lead PI shall promptly develop and submit an integrated progress report to the e-ASIA JRP Secretariat on the status of the joint research.

V-2. Final Report

A final report shall be developed and submitted by the Lead PI to the e-ASIA JRP Secretariat within two months after the completion of the joint research period.

V-3. Others

All the researchers/research institutions organizing a consortium are strongly recommended to conclude a Collaborative Research Agreement (hereinafter referred to as “CRA”) to assure optimal understanding and coordination among the collaborating scientists working on each project before project starts. CRA should, with due respect to the researchers’ institutions and the Member Organizations’ intellectual property and data handling policy, include the treatment of intellectual property rights, handling of confidential information, publication of research results, warranty and indemnification, and access to and transfer of the relevant materials. Applicants shall refer to the Appendix for each Member Organization’s requirement.

VI. Contact information

Applicants should contact the following for information on each Member Organization’s eligibility rules or support conditions:
Also please refer to the Appendix for information of each Member Organization.

Country: Member Organization	Contact Point
(1) Japan: Japan Science and Technology Agency (JST)	Mr. Masayoshi Higuchi, Mr. Hideaki Kodani and Ms.Wakana Yamanaka TEL: +81 (0)3-5214-7375 E-mail: easiajrp@jst.go.jp
(2) Myanmar: Ministry of Science and Technology (MOST) Department of Research and	Dr. Cho Cho Lwin Deputy Director Department of Research and Innovation

Innovation (DRI)	Tel: +95-1-663451 E-mail: lrtc.dri.headoffice@gmail.com
(3) Philippines: Department of Science and Technology	
Philippine Council for Agriculture, Aquatic and Natural Resources Research and Development (DOST-PCAARRD)	Dr. Reynaldo V. Ebora Executive Director Tel: +6349-536-4990 +6349-554-9670 e-Mail: r.ebora@pcaarrd.dost.gov.ph cc: oed-rd@pcaarrd.dost.gov.ph Dr. Juanito T. Batalon Director Agricultural Resources Management Research Division (ARMRD) and e-ASIA Greener Digital Cities Working Group Focal Person Tel: +6349-536-4990 +6349-554-9670 Loc. 286 e-Mail: jbatalon@yahoo.com
Philippine Council for Health Research and Development (DOST- PCHRD)	Mr. Vincent John H. Tumlos Tel: +632-837-7537 local 102 E-mail: vhtumlos@pchrd.dost.gov.ph Mr. Paul Ernest N. De Leon Tel: +632-837-7535 E-mail: pndeleon@pchrd.dost.gov.ph
Philippine Council for Industry, Energy and Emerging Technology Research and Development (DOST-PCIEERD)	Dr. Enrico C. Paringit Tel: (+632) 8837-2071 locals 2100, 2121, 2120 and 2107 [1] E-mail: enrico.paringit@pcieerd.dost.gov.ph
(4) Thailand: National Research Council of Thailand (NRCT)	Ms. Kwansiri Wanwiwake, Ms. Chontida Tangnara Tel: +66 (0) 2561 2445 ext. 206 E-mail: chontida.t@nrct.go.th

[1] Updated phone number on Apr.22, 2022

Applicants should contact the following for general inquiries:

Ken Kawabata (Mr.)
e-ASIA JRP Secretariat / Japan Science and Technology Agency
Room 218 Innovation Cluster1 Building
National Science and Technology Development Agency (NSTDA)
111 Thailand Science Park, Phahonyothin Road
Khlong Nueng, Khlong Luang, Pathum Thani 12120 THAILAND
Tel: +66-2-564-7713 H/P: +66-61-421-0316
E-mail: easia_secretariat@jst.go.jp

Appendix

e-ASIA Joint Research Program (the e-ASIA JRP)
Research Cooperation in the field of
"Advanced Interdisciplinary Research towards Innovation"
on the topics of "Greener Digital Cities"

11th Joint Call for Proposals to be submitted by 30 March 2022

Information about each Member Organization (alphabetical order by country)

1) Japan: Japan Science and Technology Agency (JST)
2) Myanmar: Ministry of Science and Technology (MOST)
3) Philippines: Department of Science and Technology
   (DOST-PCAARRD)/ (DOST- PCHRD)/ (DOST-PCIEERD)
4) Thailand: National Research Council of Thailand (NRCT)

1) Japan: Japan Science and Technology Agency (JST)

Japan-based applicants must complete all the requirements designated by JST. Information on additional requirements applied to Japan-based applicants are available at the official domestic call announcement on the JST website.

JST's official call announcement:

https://www.jst.go.jp/inter/program/announce/announce_easia_jrp_11th.html

I. Eligibility for Japan-based applicants

- Any independent researcher personally affiliated with and actively conducting research at a domestic Japanese research institution (or who will fulfil this requirement by the start of the research project), regardless of nationality, is eligible to apply as a Principal Investigator.
  Note: "Domestic Japanese research institution" in Japan refers to universities, independent administrative institutions, national/public testing and research institutions, specially authorized corporations, public‐service corporations and enterprises, etc. that must satisfy predetermined requirements designated by the Ministry of Education, Culture, Sports, Science and Technology (MEXT). Japan-based researchers from industry are also eligible to apply as a Principal Investigator in the joint research project in the Japan-based team.
- Early career researchers who completed his/her doctorate in the last 10 years are strongly encouraged to apply.

II. Support

II-1. Funding Modality

JST will support each Japan-based team with a "new fund" up to 27 million Japanese Yen as direct cost for 36 months. The overhead cost of 30% of direct cost will be added separately. The budget for a project may differ each year, depending on the content of activities. The amounts will be adjusted each year due to the budgetary limitations for this program.

II-2. Expenditure/costs eligible for funding

This program is designed to support expenses related to cooperation by a Japan-based researcher with their counterparts, such as expenses for travel and/or conducting seminars/symposia.

Funding provided within this call is intended to enhance the capacity of the applicants to collaborate. Funding will therefore be provided mainly in support of collaborative activities but may also cover some of the local research costs that are necessary for the collaboration. In principle, eligible direct costs are those costs directly necessary for accomplishing the research, indicated below. Please refer to the guidance documents available at the following link for further details of eligible

direct costs: https://www.jst.go.jp/inter/research/contract/contract.html (in Japanese only).

1. Eligible Direct Costs:
   i) **Facilities, Equipment and Consumables**: costs of research equipment, spare parts, prototypes,
   ii) **Travel Costs**: travel costs and associated living expenses of the project members registered in the project plan, and travel costs of inviting external experts.
   iii) **Salaries and Honoraria**: salaries of the researchers, temporary staff, PhD students, post‐docs, etc., who are hired for the research, and other costs such as honoraria for invited lecturers.
   iv) **Others**: costs for organizing meetings in Japan including rental costs for the venue, food & beverage (excluding alcohol) costs and other costs which are deemed to be necessary for organizing the event. Expenses for creating software, renting or leasing equipment, transporting equipment, etc.

2. Overhead cost shall be 30% of direct costs.
Note: Please refer to the following link for the provisions regarding indirect costs: https://www8.cao.go.jp/cstp/compefund/shishin1_tekiseisikkou.pdf (in Japanese only).

II-3. Payments
Payments will be made according to a contract for commissioned research entered into between JST and a ”Domestic Japanese Research Institution”. The contract for commissioned research will be renewed each year over the cooperative research period. Since the contract is agreed on condition that all administrative procedures related to this project will be handled within the institution, the PI should consult with the department in charge at his/her institution.

III. Application

Applicants of each Japan-based team are required to complete necessary submission as specified below.

III-1. Submission of Application Forms (Form E1-E9) (from the Lead PI)
Proposals must be submitted by e-mail to the e-ASIA JRP Secretariat.

III-2. Additional Application Forms (For Japan-based applicants only)
In addition to the common Application Forms in English (Form E1-E9), Japan-based applicants are required to complete and submit additional application forms in Japanese (Forms 1J and 2J) to JST by “e-Rad” (https://www.e-rad.go.jp/index.html).

- **Forms 1J and 2J are available from the JST website:**

https://www.jst.go.jp/inter/program/announce/announce_easia_jrp_11th.html
(in Japanese only)

- **The deadline for the "e-Rad" submission:**
  19:00 (Japan Standard Time) 30th March 2022(TBD)

IV. Evaluation of Project Proposals

Independent Committees consisting of experts will evaluate all proposals. Based on the results of the evaluation, a common decision will be decided jointly among Member Organizations participating in the call regarding funding of the selected proposals.

IV-1. Evaluation Criteria

The following evaluation criteria, incorporated with the e-ASIA JRP evaluation criteria (see IV-2. Evaluation Criteria in the Call Guideline), will apply to each application:

i) Conformity with Program Aims and Designated Research Fields

The proposed activity shall conform to the aims of the program and the research fields that the program designates. In addition, the applicants shall already have a good research foundation for their proposed activity.

ii) Capability of Principal Investigators

The principal investigators of collaborating countries shall have the insight or experience for pursuing the activity and the ability to manage the cooperation and reach the project goals during this program's period of support. The call aims to take into account the potential of early career researchers who have completed their doctorate in the last 10 years in this role.

iii) Effectiveness and Synergy of Cooperative Research Project

The proposed research activity shall be eminent, creative and at an internationally high level in an attempt to produce a significant impact on the development of future science and technology or to solve global and regional common issues or to create innovative technological seeds that can contribute to the creation of new industries in the future.

Moreover, proposed research activities that can be expected to create synergy through collaborative research with the counterpart institution will be preferred. Such synergy could be attained through, for example, the acquisition and/or application of knowledge, skill and/or know-how of the counterpart researcher.

iv) Validity of Research Plan

The sharing of research activities with the counterpart research institution and the planning of research expenses shall be adequate to realize the proposed research activity.

v) Effectiveness and Continuity of Exchange

Activities characterized by the following examples shall be involved to enhance sustainable research exchange and networking.

- Nurturing of researchers through human resource exchange.
- Sustainable development of research exchange with the counterpart countries initiated by this activity.
- Enhancing the research network between collaborating countries including researchers other than the research leader and members of this activity.
- Improving the presence of science and technology in Japan and the counterpart country.

vi) Validity of Exchange Plan

The planning of exchange activities and their expenses with the counterpart research institute shall be adequate to realize the proposed research activity.

V. Project Implementation/Publications and Intellectual Property

Selected collaborative research projects in this call are expected to start in April 2023, but the schedule is subject to future adjustment due to budgetary conditions. The PIs are obliged to publish research results obtained in the program with acknowledgement of the support received.

PIs supported in this call are required to conclude a Collaborative Research Agreement listing the rights and responsibilities of each project partner, and including regulations on the handling of Intellectual Property Rights. This Agreement shall be signed among the institutions participating in the project.

Scientific and technological outcomes and any other information derived from the collaborative activities supported in this call can be announced, published or commercially exploited with the agreement of all partners in a supported project and according to their national regulations as well as international agreements concerning intellectual property rights.

As for the contract between the “Domestic Japanese research institution” and JST, it stipulates that Article 17 of the Industrial Technology Enhancement ACT (so-called Japanese version of the Bayh-Dole Act) and Article 25 of the ACT on Protection of the Creation, Protection and Exploitation of Content (tentative translation) will be applied to all intellectual property rights belonging to the Japanese institution generated as a result of this project.

VI. Reporting

VI-1. Progress report to JST

At the end of each fiscal year, the PI of the Japan-based team shall promptly submit an annual progress report on the status of research exchange, and the institution with which the PI is affiliated shall promptly submit a financial report on research expenses to JST.

VI-2. Final report to JST

After completion of the period of joint research, the Japan-based team's PI shall submit within two months a final report on the results of the joint research. The final report shall include a general summary compiled jointly by all members of the Japan-based research group.

The institution with which the PI is affiliated shall submit a financial report on research expenses within the same time frame.

VII. Contact Information

Japan Science and Technology Agency

Mr. Masayoshi Higuchi, Mr. Hideaki Kodani, Ms. Wakana Yamanaka,
Department of International Affairs
Japan Science and Technology Agency (JST)
Tel: +81(0)3-5214-7375Fax: +81(0)3-5214-7379
E-mail: easiajrp@jst.go.jp

2) Myanmar: Ministry of Science and Technology (MOST)

- Funding modality
  - In-Kind

- Eligibility criteria
  - The applicants must be Researchers and /or University Professors/Instructors who work in Public and Private Institute or University in Myanmar., and are competent in conducting a Research with International Partners.

- Contact point

Dr. Cho Cho Lwin
Deputy Director
International Relation and Technical Cooperation Division
Department of Research and Innovation
Ministry of Science and Technology, Myanmar
No.6, Kabar Aye Pagoda Road, Yankin Township, Yangon, Myanmar
Tel: + 95-1- 663451 H/P: +95-1- 664930

Foreign Relation Department
Ministry of Science and Technology
Office Number(21), Naypyitaw, Myanmar

3) Philippines: Department of Science and Technology (DOST-PCAARRD)/ (DOST- PCHRD)/ (DOST-PCIEERD)

Department of Science and Technology – Philippine Council for Agriculture, Aquatic and Natural Resources Research and Development (DOST - PCAARRD)

Interested Areas

The areas in which DOST-PCAARRD is mainly interested are as follows.

Greener Digital Cities for Smart Agriculture Towards a Sustainable, Resilient, Healthy Living of the Communities

Project 1. Promoting Greener Digital Cities through Smart Farming Technologies of the Banana Industry

This project is envisioned to be implemented in a banana-producing community and aims to establish a Circular Green City Economy using smart farming technologies. It will generally focus on sustainably producing “green” bananas for the community and to other countries as well.

Specifically, this is envisioned to:

1. Reduce environmental footprint in producing bananas with smart and precision agriculture;
2. Reduce the cost of production thru the use of precision technologies;
I. Reduce external resource dependency; and
4. Minimize waste in production.

Project 2. Smart City for Smart Living Through Smart Production and Marketing System of Selected Vegetables Through Hydroponics System

This project will look into the feasibility of growing selected high valued crops on top of high-rise buildings and other vacant spaces in the urban city of Iloilo, Philippines, for food security, income generation, and physical and psychological wellness of the city dwellers. Innovations will be done using digital

greener tools and techniques such as the Internet of things (IoT)-enabled hydroponic system wherein the greenhouse and various essential water parameters will be controlled and monitored with the support of IoT. Solar power will be harnessed in the operations of greenhouse and hydroponic systems.

Likewise, a selling/buying platform will be created in which producers can provide data that are essential to the marketing of their produce such as but will not be limit to: time of harvest, the quantity of harvest, location, type of product, and price. The possibility of connecting to delivery services (e.g., Grab, TokTok, etc.) will be explored to open more avenues to generate jobs and enhance income among riders. Also, this initiative will minimize damage and losses on vegetables produced since the supply chain will be cut short, that is, direct from farm to consumers.

I. Who may apply

Filipinos with at least a Master's Degree in a relevant field, have proven research competence/track record, and employed in universities or research agencies/institutes that are members of the DOST-PCAARRD National Agriculture, Aquatic and Natural Resources Research and Development Network (NAARRDN) or Regional R&D Consortia are eligible to apply for the research grant.

II. How to apply

Interested parties should submit their proposals using the DOST-Grants-in-Aid (GIA)-prescribed proposal templates through the DOST e-Proposal Portal (http://dpmis.dost.gov.ph) before the Closing Date on 30 March 2022; 17:00 (Philippine Standard Time).

Note: Applications with incomplete documents will not be accepted.

III. Review of proposals

Approval of proposals for research grants will be based on the following multi-level review process:

1. In-house screening in terms of alignment to the research priorities, duplication, and completeness of requirements;
2. Technical review by Experts' Pool based on the following criteria:
    - Technical merit;
    - Data management;
    - Relevance/significance;
    - Marketability potential (for product-based proposals);
    - Feasibility (practicality, cost, time); and
    - Proponent's/Institution's capacity;
3. Final approval by the DOST-Executive Committee (EXECOM); and
4. In each stage of the review process, the proponent may need to revise the proposal on the basis of the recommendations of the reviewers/evaluators. The review process will take 40 working days provided that all the requirements had been submitted.

IV. Funding support available

DOST-PCAARRD will allocate a budget of up to US$99,078 or PhP5 million for one (1) research project for a duration of two (2) years. The DOST GIA guidelines shall be applied.

Budget allocation for the following research projects are as follows:

Topic	**Budget per Project for 2 years**
Program: Greener Digital Cities for Smart Agriculture for Resiliency and Healthy Living in Communities	
Project 1. Promoting Greener Digital Cities Through Smart Farming Technologies of the Banana Industry	PHP5 million/ (About USD99,078)
Project 2. Smart City for Smart Living Through Smart Production and Marketing System of Selected Vegetables Through Hydroponics System	PHP5 million (About USD99,078)

V. Timeline

The schedule below will be followed in processing and funding the proposal:

Deadline of Proposal Submission: (Both to e-ASIA and DOST/PCAARRD)	March 30, 2022
PCAARRD's Review of Proposals: (Directors' Council (DC), Governing Council (GC), and DOST EXECOM)	April 29 to July 29, 2022
Start of Implementation	January to March 2023

VI. Contact Information

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Department of Science and Technology – Philippine Council for Health Research and Development (DOST – PCHRD) (Healthcare)

I. Review Procedures

Approval of proposals for research grants will be based on a multi-level review process.

1. In-house screening in terms of alignment to the research priorities, duplication, and completeness of requirements.
2. Technical review and scoring by external consultants (Technical Panel) based on the following criteria:

Relevance & Sensitivity	Alignment to national S&T priorities, strategic relevance to national development and sensitivity to Philippine political context, culture, tradition and gender and development.
Technical/Scientific	Merit Sound scientific basis to generate new knowledge or apply existing knowledge in an innovative manner.
Financial Feasibility	Financial viability of the undertaking with proponent's and institutional capacity to manage R&D funds vis-à-vis the proposed work plan and budget.
Proponent's / Institutional Capacity	Good track record or CV with proven competence to implement and complete the R&D program / project within the approved duration and budget.
Program Contribution	How much the proposal will contribute to the overall achievement of the program? Other potential socio-economic, environmental, and health impact.

3. Final approval by the PCHRD Governing Council or the PCHRD Executive Director depending on the recommended total budgetary requirement of the proposal.
4. In each stage of the review process, the proponent may need to revise the proposal on the basis of the recommendations of the reviewers. The review

process will take 40 working days provided that all the requirements had been submitted.

II. Who may apply

Filipinos with at least a Master's Degree in a relevant field, have proven research competence / track record, and employed in universities/colleges, research agencies/institutes, hospitals, and other health related agencies are eligible to apply for the research grant.

III. How to apply

The proponent shall submit the following requirements online through the DOST Project Management Information System (DPMIS) (http://dpmis.dost.gov.ph/):

- Project Proposal following the prescribed format in the DOST DPMIS website
- Work plan Schedule (Gantt Chart of Activities)
- Proposed Line-Item Budget (LIB) (DOST-GIA LIB Form)
- Counterpart Funding of Implementing Agency
- Informed Consent Form (for studies involving human participants)
- Case Report Form, if applicable
- Endorsement of Agency Head
- Curriculum Vitae of Proponent(s)
- Duties and Responsibilities of each Project Personnel
- Letter of request addressed to:

  The Executive Director
  Philippine Council for Health Research and Development
  Department of Science and Technology
  Saliksik Bldg., DOST Science Complex, Gen. Santos Avenue
  Bicutan, Taguig City, Metro Manila

DOST-PCHRD shall also require the proponent to submit the following documents before the start of project implementation:

- Biosafety Clearance, if applicable
- Animal research permit, if applicable
- Bureau of Animal Industry Clearance, if applicable
- Ethics Clearance (for studies involving human subjects)

Deadline for online submission will be on or before **01 April 2021, 5:00 PM** (Philippine Standard Time). *Note: Online submission will be through the DOST DPMIS website only. Submission through emails will not be accepted.*

IV. Funding Support Available

DOST-PCHRD will allocate up to **100,000 USD** for each research project for a duration of three years. DOST Grants in Aid guidelines shall be applied.

V. Contact Information

DOST - PCHRD

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Department of Science and Technology – Philippine Council for Industry, Energy and Emerging Technology Research and Development (DOST-PCIEERD) (Transport, Energy, Water, Waste Disposal, Data Communication, and Fintech)

The national call announcement will be published in the DOST-PCIEERD website: **www.pcieerd.dost.gov.ph**

I. Eligibility Requirements

(1) Any Filipino connected with public and private universities and colleges and Research and Development Institutes, with proven competence may apply for funding support provided that projects fall under the specific research areas.

(2) The eligibility of the Philippine Principal Investigator shall be determined by DOST-PCIEERD based on his/her readiness in terms of technical, managerial, financial, and marketing capabilities (if necessary). As such, the proponent shall submit documents/proof of the following: credentials/proof of capability, track record (e.g. ongoing and previous project/s implemented in the past), and endorsement of his/her institution, must not have any existing accountability with DOST and its agencies particularly technical and financial reports, and must not have pending administrative or criminal case involving financial transactions. The Philippine Principal Investigator must possess at least a Master's degree in a relevant field.

II. Support

Three (3) projects could be supported under this call. Budget range of US $300,00 – 350,000 per project for 3 years shall be provided by DOST-PCIEERD to support the collaborative projects.

III. Application

Interested parties should submit their proposals using the DOST-GIA proposal format through the DOST E-proposal portal, http://dpmis.dost.gov.ph before the Closing Date on 01 April 2022: Together with the proposal, DOST-PCIEERD requires submission of a formal letter of intent from the applicant and an endorsement from the authorized head of organization. The authorized head of the organization will also be the

principal signatory of their organization for the research agreement award.

IV. Evaluation of Project Proposals

Review teams (Project Managers, Technical Experts Team or Technical Panel, and DOST-PCIEERD Management Team) will evaluate each proposal based on the following criteria: alignment to the Call, no duplication with previous or existing researches, scientific merit, technical feasibility, soundness of methodology, financial viability (commensurate to intended output and potential impact), potential socio-economic merits, environmental impact (e.g. does not pose significant adverse to the environment or will/can improve environmental conditions), and marketability (e.g. potential adoption/use of the industry (manufacturer) and other partners). Each proposal will be given a numerical score and will be ranked accordingly. Preliminary funding recommendations will be forwarded to the DOST-PCIEERD Governing Council based on this ranking.

The DOST-PCIEERD Governing Council, based on the rankings and preliminary recommendation of the DOST-PCIEERD evaluation teams, will make final funding decisions for the DOST-PCIEERD counterpart before forwarding the proposals to the joint panel of the participating Member Organizations and the e-ASIA JRP Board Meeting for final funding decisions.

V. Reporting

Semi-annual and a detailed final progress and financial reports will be required. The final reports must be submitted within 90 calendar days after the completion of the period of performance. Required forms are downloadable from the DOST-PCIEERD website and may be provided by the DOST-PCIEERD upon the awarding of the agreement to eligible applicants.

VI. Contact Information

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[2] Updated phone number on Apr.22, 2022

4) Thailand: National Research Council of Thailand (NRCT)

I. Eligibility for Thai applicants

The applicants must be “Thai” researchers and/or university professors/ instructors who work in public research institute or university in Thailand and are competent in conducting research with international partners.

NRCT will support only for the two areas of Transport and Water/ Food. The topics are as the followings.

1. A Smart Commuter-Supported System using AI, AR, VR, and IoT
2. A Smart Monitoring System for Large Public Infrastructure for water and food

II. Support

The total budget for the Thai researcher over a full 3-year period is up to 3,000,000 THB. The budget for a project may differ each year, depending on the content of activities.

III. Application

1. Thai applicants who are interested to be granted by NRCT must submit a national proposal to NRCT through NRCT system (NRIIS: https://nriis.go.th) no later than 23.59 (Thai time) 28 March 2022.

2. Lead PI must also submit proposal to the e-ASIA JRP Secretariat’s e-mail no later than17:00 (Thai Standard Time, UTC+7) 30 March 2022.

***NRCT will not accept the proposal if the applicants fail to submit to NRCT system (NRIIS) and/or e-ASIA JRP Secretariat.

IV. Evaluation of Project Proposals

Proposals will be peer-reviewed and evaluated by a committee according to NRCT internal rules and procedures. The final selection will be done by the international selection committee of e-ASIA.

V. Evaluation Criteria

To be funded, proposals must be internationally competitive. It should lead to the advancement of the research field, or novel applications or increase of research capacity.

Key evaluation criteria are:

- Significance, research impact and research utilization;
- Scientific Rationale: novelty, importance and timeliness of the research
- Design and feasibility of the project plan
- Partnership: including strength and clarity of collaborations and opportunities provided, quality of the project management structure proposed;
- Quality and suitability of the research environment and of the facilities;
- Ethical considerations and governance arrangements

VI. Reporting

- Thailand PI should submit a progress report on the status of joint research according to NRCT's funding procedures.
- After completion of the period of joint research, the Thailand PI shall submit within two months a final report on the results of the joint research to NRCT.

VII. Contact Information

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