



OCT 28 2020

Administrative Order No. 018
Series of 2020

Subject: GUIDELINES FOR THE IMPLEMENTATION OF THE ACCELERATED R&D PROGRAM FOR CAPACITY BUILDING OF RESEARCH AND DEVELOPMENT INSTITUTIONS AND INDUSTRIAL COMPETITIVENESS OF THE SCIENCE FOR CHANGE (S4C) PROGRAM

1. RATIONALE

The Department of Science and Technology (DOST), with its mandate to coordinate all the research and development (R&D) activities in the country, spearheaded the crafting of the Harmonized National R&D Agenda (HNRDA) 2017 – 2022 based on the socio-economic agenda of the Administration, the Philippine Development Plan (PDP) 2017-2022, and the Science for the People (SFTP) strategy. The HNRDA outlines the priority R&D programs and projects to be funded by the government from 2017 to 2022. The Science for Change (S4C) Program articulates the implementation of new programs and expansion of the existing R&D and Human Resource Development (HRD) programs of DOST, as well as the increased investment in R&D capacity-building and improvement of the industry competitiveness in the regions. The latter is covered by the implementation of the “Accelerated R&D Program for Capacity Building of Research and Development Institutions and Industrial Competitiveness” which is composed of four (4) component programs, namely: (1) Niche Centers in the Regions for R&D (NICER) Program, (2) R&D Leadership (RDLead) Program, (3) Collaborative R&D to Leverage Philippine Economy (CRADLE) Program, and (4) Business Innovation through S&T (BIST) for Industry Program.

The Administration recognizes the role of Science, Technology and Innovation (STI) in achieving AmBisyon Natin 2040. From 2009 to 2013, the R&D expenditures as a percentage of the GDP increased from 0.11% to 0.14%. However, this is still far from the global average of 2.04% and UNESCO recommendation of 1% for developing countries. In 2015, the bulk of R&D spending in the Philippines came from the public sector with 53% of total expenditures. Most of the R&D activities in the country are concentrated in the National Capital Region (NCR), Region III (Central Luzon) and Region IV-A (CALABARZON).

In the Philippine Development Plan 2017-2022, the annual targets for R&D expenditure as a percentage of GDP are set at 0.2% in 2017, increasing to 0.5% by 2022. The number of Researchers, Scientists and Engineers (RSEs) is set to increase from 270 per million Filipinos to 300 in 2022. According to the PDP, *“STI will contribute to the achievement of the overall PDP goal of establishing the foundation for inclusive growth, a high-trust society and a globally competitive knowledge economy through increasing the country’s potential growth. This will be done by promoting and accelerating technology adoption and stimulating innovation. Increasing STI in agriculture, industry and services sectors as well*

as investments in technology-based start-ups, enterprises and spin-offs will result in the promotion and acceleration of technology adoption. On the other hand, enhancing the creative capacity for knowledge and technology generation, acquisition and adoption; and strengthening open collaboration among actors in the STI ecosystem will stimulate innovation.”

2. SCOPE/COVERAGE

The guidelines of the “Accelerated R&D Program for Capacity Building of Research and Development Institutions and Industrial Competitiveness of the S4C Program” cover grant application, monitoring, and reporting of programs and projects that are funded under the NICER, RDLead, CRADLE, and BIST through the Grants-in-Aid (GIA) Program of the Department of Science and Technology (DOST).

3. PROGRAMS UNDER THE ACCELERATED R&D PROGRAM FOR CAPACITY BUILDING OF RESEARCH AND DEVELOPMENT INSTITUTIONS AND INDUSTRIAL COMPETITIVENESS

3.1 NICHE CENTERS IN THE REGIONS FOR R&D (NICER) PROGRAM

As innovation plays an important role in economic development, DOST aims to accelerate industrial competitiveness by capacitating Higher Education Institutions (HEIs) in the regions to undertake quality research that will promote regional development.

- i. The Niche Centers in the Regions for R&D (NICER) Program will provide an institutional grant to HEIs for R&D capacity building to improve their S&T infrastructure (i.e. equipment, R&D programs and projects, and human resource).
- ii. NICER will be established in consultation with the academe and industry; and should be endorsed by the Regional Development Council (RDC) or its equivalent for the NCR, upon the recommendation of the Regional Research, Development, and Innovation Committee (RRDIC).

3.1.1 GRANT OBJECTIVES

The NICER Program aims to capacitate the HEIs in the regions to make a significant improvement in R&D by integrating the regional development needs with existing research capabilities and resources. Specifically, the Program aims:

- 3.1.1.1 To establish R&D Centers that will cater to the specific STI needs of the regions, to include upgrading, development and acquisition of research equipment for collaborative R&D undertakings;

- 3.1.1.2 To capacitate S&T human resource through the RDLead Program in pursuit of innovative R&D that will support local industries;
- 3.1.1.3 To promote inclusive growth that will benefit the research community and the industry by increasing the number of developed and transferred technologies, and by monitoring its socio-economic impacts; and,
- 3.1.1.4 To improve the level of IP management and protection as well as deploy technologies for the public good, and generate revenues through licensing and commercialization.

3.1.2 SELECTION CRITERIA

3.1.2.1 ELIGIBILITY OF PROPONENTS

- 3.1.2.1.1 Any HEI with proven competence and track record may apply for funding under the NICER Program, provided that the projects will have a beneficial impact on regional development. The HEI proponent may seek the assistance of the Council concerned in developing the NICER proposal or may also submit a corresponding proposal under the RDLead Program to fill in the capability gap, if needed.

Further, the host HEIs may also avail of RD Leader/s to support the establishment and/or to strengthen the capabilities of their approved NICERs.

- 3.1.2.1.2 For proposed NICERs under the health priority areas, hospitals and medical institutes and schools, both public and private, which have the capabilities to conduct R&D on a specific niche may also apply to be the host institution.
- 3.1.2.1.3 Existing R&D Centers can apply for recognition as a NICER subject to the appropriate Council's evaluation. If successfully recognized, the center can submit proposals for funding under the NICER Program.
- 3.1.2.1.4 The eligibility of the HEIs and qualified institutions shall be determined by the DOST Councils based on their accomplishments,

alignment with the HNRDA, sustainability, adequacy of human resources and clearance from any accountability with DOST.

3.1.2.2 GENERAL CRITERIA

3.1.2.2.1 The proposal for the establishment of a NICER shall be endorsed by the Regional Development Council (RDC) or its equivalent for the NCR.

3.1.2.2.2 The proposed NICER shall be a collaborative undertaking among HEIs in the region. Institutions from other region/s which are working on similar or related research area may also be engaged in the NICER given their capability and commitment.

3.1.2.2.3 The proposed NICER shall be national in scope and shall be unique and different across regions, with R&D projects anchored on the Harmonized National R&D Agenda (HNRDA) and regional STI needs and capabilities.

3.1.2.2.4 The proposed NICER shall be a multi-year project (maximum of 3 years) with a clear roadmap of R&D activities and outputs. The proposed center should have at least three (3) R&D project proposals which may have different implementing agencies to which funds can be directly downloaded. A corresponding sustainability plan should be submitted together with the project proposal and once the NICER is approved, a technology transfer plan must be submitted should be within the 1st year of project implementation. The appropriate Council shall regularly monitor the R&D center. Failure to deliver the expected outputs after Year 1 will be grounds for project termination except those caused by force majeure.

3.1.2.2.5 The R&D activities shall define the (1) resources needed, (2) enhancement of facilities, e.g. laboratory upgrading (renovation or extension), and (3) procurement of equipment vital for the proposed projects.

3.1.2.2.6 Only one NICER can be hosted by an HEI or any qualified institution for the period 2017-2022,

except for highly meritorious cases subject to DOST-EXECOM's approval.

3.1.2.2.7 The sustainability plan shall indicate the commitments of the host institution to be included in the Memorandum of Agreement (MOA). The commitment shall be in the form of existing faculty, human resource training and funding support.

3.1.3 PROCEDURES FOR PROPOSALS' SUBMISSION, EVALUATION AND APPROVAL

3.1.3.1 Interested HEIs and other qualified institutions shall submit their full-blown proposals using DOST Form No. 2A and 2B downloadable from www.dost.gov.ph, together with other documentary requirements, to the concerned DOST Regional Office (DOST RO) for initial evaluation and subsequent endorsement to the Office of the Undersecretary for Regional Operations (OUSecRO). Once the endorsements of the DOST RO and OUSecRO are secured, the proponents may now submit the complete package of proposal to DOST through the DOST Project Management Information System (DPMIS) at <https://dpmis.dost.gov.ph/> during the call for NICER proposals. It is recommended that a corresponding proposal under RDLead Program be submitted, to synergize with the HEIs' NICER proposal.

3.1.3.2 The proposals will undergo the DOST-GIA evaluation process through the DOST Councils (NRCP, PCAARRD, PCHRD, and PCIEERD). The endorsements of DOST RO, OUSecRO and the RDC are requirements for the approval of the proposal by the DOST Executive Committee.

3.1.4 APPLICATION REQUIREMENTS

3.1.4.1 Full-blown proposal, Line Item Budget (LIB), work plan and curriculum vitae of project leaders and other co-researchers following the format for DOST-GIA proposals;

3.1.4.2 Letters of endorsement from the DOST RO, OUSecRO and the Regional Development Council (RDC);

3.1.4.3 For proposals involving acquisition of equipment, the following must be supplied:

- a. Equipment technical specifications
 - b. Quantity and corresponding unit cost/total cost
 - c. Reasonable purpose/usage or justification
 - d. Inventory of existing equipment
- 3.1.4.4 For proposals with facilities improvement/upgrading, the following must be supplied:
- a. Scope of works
 - b. Approved engineering drawings/plans
 - c. Approved detailed cost estimates for the supply of labor and materials
 - d. Reasonable purpose/usage or justification
 - e. Pictures of structures/ facilities to be improved/upgraded
- 3.1.4.5 List of ongoing and/or newly approved projects that will be benefited with the proposed NICER;
- 3.1.4.6 Sustainability Plan highlighting the mechanisms, strategies, and commitments of the collaborating HEIs / institutions to sustain the operations of the NICER after completion of the project;
- 3.1.4.7 If the NICER will have an income-generating activity, a financial viability/ projection should also be included; and,
- 3.1.4.8 Other necessary information such as:
- a. Inventory of MS/PhD faculty members and researchers with qualifications/expertise that are related to the scope of the NICER;
 - b. Number of graduate students (MS/PhD) per degree program/s that are related to the scope of the NICER;
 - c. List of existing R&D Centers and Technology Licensing Office/Technology Transfer Office in the HEI proponent;
 - d. List of collaborating and cooperating partner HEIs and qualified institutions with corresponding letter/s of support; and,
 - e. Prior art search reports, at least for the currently proposed projects or technologies expected to be developed under the NICER.

YAP

3.1.5 PRIORITY AREAS FOR FUNDING

- 3.1.5.1 Each R&D Center that will be established under the NICER Program will be implemented as an R&D program consisting of institution building and related projects, for funding under the DOST Grants in Aid (GIA) Program.
- 3.1.5.2 The thrust of each R&D Center will be consistent with the HNRDA 2017-2022, and aligned with the Philippine Development Plan 2017-2022.
- 3.1.5.3 The R&D Centers will be anchored on industry needs, as identified by the Regional Development Council (RDC).

3.1.6 PROJECT IMPLEMENTATION AND MONITORING

For the NICER Program, the DOST shall provide funding to R&D projects to be implemented for a maximum of three (3) years. It is understood that the funded initiatives will be institutionalized by the implementing agencies to ensure the success and sustainability of the R&D Centers in the regions. The Human Resource Development (HRD) component shall be charged against DOST Science Education Institute (DOST-SEI) thru its programs. Hence, a separate scholarship application should be submitted to DOST-SEI for this purpose.

3.2 R&D LEADERSHIP (RDLead) PROGRAM

Under the Philippine Development Plan (PDP) 2017-2022 on “Vigorously Advancing Science Technology and Innovation”, the Department of Science and Technology (DOST) will accelerate the capacity building of institutions and human resources in the regions. As cited in the PDP, the low rank of the Philippines in the Global Innovation Index (GII) Report 2016 at 74th among 128 economies is partly due to weakness in human capital and research and development. The government through the PDP has set out strategies, targets, and legislative agenda to leverage science, technology, and innovation. An “Act Establishing the Science for Change (S4C) Program” is one of the legislative agenda being pursued. The RDLead Program is intended for HEIs, RDIs (DOST and non-DOST) and national government agencies (NGAs) in the country.

- i. The HEIs, RDIs or NGAs, through the RDLead Program, shall engage experts with strong leadership, management, and innovative policy-making proficiencies to strengthen their research and development capabilities.
- ii. The RD Leader shall capacitate HEIs, RDIs or NGAs to help improve and hasten the use of research results that will contribute to the socio-economic development of the country and help address pressing challenges in the areas

of basic research, agriculture, aquatics, natural resources and environment, industry, emerging technologies, health, climate change and disaster risk reduction.

- iii. The RDLead Program, which is similar to the Balik Scientist Program, shall be implemented by the National Research Council of the Philippines (NRCP). The HEIs, RDIs or NGAs may request for an RD Leader from NRCP.
- iv. The RDLead Program shall be initially limited to local experts of Filipino citizenship based in the Philippines. Foreign experts shall only be considered under foreign grants, if any.
- v. Local experts must not be affiliated or part of the HEI, RDI or NGA requesting for an RD Leader.

3.2.1 GRANT OBJECTIVES

The RDLead Program aims to strengthen the research and development capabilities of the HEIs, RDIs or NGAs in the country. Specifically, the RDLead Program shall secure the services of Filipino experts in the Philippines who shall:

- 3.2.1 Assist in establishing new and/or upgrading of existing R&D Centers under the NICER Program;
- 3.2.2 Train and capacitate local researchers, faculty, students, and laboratory heads/staff;
- 3.2.3 Provide policy recommendations for the continuous development, maintenance and sustainability of R&D Centers in the country and keeping up with the latest technologies and world-class standards; and,
- 3.2.4 Develop and/or update: a) Environment, Health and Safety Manuals and Protocols; b) Risk Management Services; c) Sustainability and Maintenance Programs; d) Protocols and Training Modules; and e) existing facility guidelines, e.g. Good Laboratory Practices (GLP) Guidelines – Standard Operating Procedures (GLP Manual and Training Module).

3.2.2 SELECTION CRITERIA

3.2.2.1 ELIGIBILITY OF RDLEAD APPLICANTS

- 3.2.2.1.1 The Expert must have:
 - a. A doctorate degree in the relevant field from a reputable academic institution or – if without a

graduate degree – a highly-specialized skill or field of expertise that is appropriate to the proposed R&D and aligned with the HNRDA and the priorities of the DOST;

- b. At least 5-year professional experience in the relevant field;
- c. Competent training, leadership, and management skills;
- d. Clearance from any accountability with DOST including its attached agencies and previous employer/s; and,
- e. Good health.

3.2.2.2 GENERAL CRITERIA

3.2.2.2.1 These guidelines shall cover the selection of experts who will apply or will be engaged by the HEI, RDI or NGA in any of the following arrangements:

a. HEI, RDI or NGA which needs to strengthen their R&D capabilities through the conduct of a proposal write shop and/or other related activities geared towards one or more of the following:

a.1 establishment of a NICER to be hosted and managed by an HEI/RDI as endorsed by the DOST RO, DOST OUSecRO, and the relevant DOST Sectoral Council and duly approved by DOST OUSecRD;

a.2 establishment of new R&D unit/s and/or creation and implementation of capacity-building program/s under the management of the HEIs, RDIs or NGAs; and,

a.3 development and/or enhancement of the R&D track record of HEI, RDI or NGA by way of crafting of R&D roadmap, project/program proposal for funding, including but not limited to crafting of learning modules, manuals, or other similar learning and development tools

needed in empowering the research personnel of the HEI, RDI or NGA.

- b. HEIs, RDIs or NGAs with an approved NICER or similar R&D Center, but may need additional expertise, guidance, and/or leadership to ensure attainment of its objectives and outcomes.

3.2.2.2.2 The HEI, RDI or NGA may avail the services of one or two RD Leaders for each R&D Center/Program to be established or upgraded under the NICER program and/or other DOST initiatives, which should be stipulated in the request sent to NRCP for evaluation.

3.2.2.2.3 The approved RD Leader may be engaged in either a full-time or part-time basis for a maximum period of one year.

- a. The schedule shall cover both personal appearance of the RD Leader in the HEI, RDI or NGA to render his/her expertise and services and those that will be done in other platforms such as but not limited to online, email, and phone consultations.

- b. Both parties (HEI, RDI or NGA and the RD Leader) shall agree to the Terms of Reference (TOR) to include definite frequency and duration of visits of the RD Leader to the HEI, RDI or NGA for the entire period of engagement and the expected outputs and activities to be delivered and carried out, respectively during each visit.

- c. The NRCP shall regularly monitor the RD Leader with the help of the requesting institutions (HEI, RDI or NGA). Failure to deliver expected outputs will be a ground for termination of the agreement.

3.2.2.2.4 Outputs

The expected outputs of the HEI, RDI or NGA which shall be generated through the assistance of the RD Leader may be any of the following, as agreed with the HEI, RDI or NGA:

- a. Publications (in recognized scientific journals or peer-reviewed publication);
- b. Patents (tangible measure of innovation, or intellectual property);
- c. Products/ Process (new or innovative, with commercial value);
- d. People Services (increase in the scientific and technological workforce including their training/retooling);
- e. Places (facilities that enable increased 6Ps output);
- f. Policies (inputs to science-based decision making);
- g. Copyrighted Presentations and Training Modules shared with host HEI, RDI or NGA;
- h. Program/Project Proposals submitted to relevant DOST Council or other national and international research funding agencies/institutions;
- i. R&D Roadmaps;
- j. R&D Human Resource Development Program; and,
- k. Protocols, Manuals developed/updated

3.2.2.2.5 Outcomes

The following are the expected outcomes of the RD Leaders:

- a. Flourishing R&D activities in the regions as evidenced by the increased number of R&D initiatives aligned with the HNRDA;
- b. Strengthened the R&D and S&T services in the regions through the enriched human resource capabilities;



- c. Sustained implementation of policies and continuous upgrading of the R&D Centers; and,
- d. Continuous utilization and marketability of results generated from the research, thereby contributing to the socio-economic growth of the country.

3.2.2.2.6 Reporting Requirement

RD Leaders are required to submit regular progress reports and detailed final reports to NRCP, as indicated in the Terms of Reference (TOR) which shall be duly endorsed by the HEI, RDI or NGA.

3.2.3 PROCEDURES FOR APPLICATION SUBMISSION, EVALUATION AND APPROVAL

3.2.3.1 The HEI, RDI or NGA, in coordination/consultation with the DOST Regional Office/s, Sectoral Council/s, and the Regional Development Council (RDC) through its Regional Research, Development and Innovation Committee (if existing) shall identify the expert/s who will lead the establishment or upgrading of priority niche centers and/or R&D programs aligned with the HNRDA for 2017-2022.

In cases when the HEI, RDI or NGA has not yet identified its RD Leader/s, it may write the NRCP for assistance, stating the specific skills, qualifications, and expected outputs being sought. The NRCP shall provide the HEI, RDI or NGA with a list of experts from its roster of members who match the HEI, RDI or NGA's needs.

Alternatively, NRCP may directly communicate to its members who may be potential RD Leaders to encourage them to apply. The NRCP may also issue a call for applicants.

3.2.3.2 The HEI, RDI or NGA shall submit to the DOST Regional Office the application package of the proposed expert for the RDLead Program (together with the proposal for NICER/R&D program, if any) for endorsement to the National Research Council of the Philippines (NRCP), copy furnished the Office of the Undersecretary for Research and Development and Office of the Undersecretary for Regional Operations.

3.2.3.3 The NRCP shall establish an Evaluation Committee (NEC) and an Advisory Board (AdBoard) to provide assistance and guidance in the implementation of the program. Both bodies may periodically review the program's operational guidelines, processes, and/or procedures and recommend necessary changes for a better implementation.

3.2.3.3.1 The NRCP Evaluation Committee (NEC)

a. Membership

The NRCP Evaluation Committee (NEC) shall be composed of five (5) to seven (7) members. Four (4) of these members shall come from each NRCP scientific cluster, and the remaining three (3) will each come from the DOST Sectoral Councils (PCAARRD, PCIEERD, PCHRD) as representatives.

b. Term

All the members of the NEC shall be co-terminus with the implementation of the RDLead Program. In cases when he/she cannot fulfill the duties expected, he/she may opt to resign by writing a letter stating the reason/s addressed to the NRCP Executive Director.

c. Role

The NEC's primary role is to evaluate, select, and endorse for engagement, the most suitable applicant for RD Leader based on the latter's qualification, interview performance, and traits in relation to the needs and preferences of the requesting HEI, RDI or NGA. The NEC will also work with the RDLead Secretariat of the NRCP in formulating the criteria and procedure for the screening, evaluation, and selection of RDLead applicants.

d. Honoraria

Members of the NEC shall be provided honoraria for every attendance in the evaluation meeting. The rate of honoraria shall be based on the applicable DOST and other government policies and guidelines.

3.2.3.3.2 The Advisory Board (AdBoard)

a. Membership

There shall be five (5) members of the AdBoard of the RDLead Program, who are regular members of the NRCP, and are representatives of the NRCP

scientific clusters. No one scientific cluster shall have more than two (2) representatives. The members shall have shown exemplary performance as R&D managers and/or mentors who have established R&D centers/programs.

b. Term

Members of the AdBoard shall be co-terminus with the implementation of the RDLead Program. In cases when he/she cannot fulfill his/her duties, he/she may opt to resign by writing a letter stating the reason/s addressed to the NRCP Executive Director.

c. Role

The AdBoard shall provide guidance to the RDLead Team in the implementation of the program to help ensure its objectives and targets are consistently met. The AdBoard will meet semi-annually to evaluate the program and make recommendations to ensure a more effective and efficient implementation and attainment of targets.

d. Honoraria

Members of the AdBoard shall be provided honoraria for every attendance in the Advisory Board meeting. The rate of honoraria shall be based on the applicable DOST and other government policies and guidelines.

3.2.3.4 The procedure for evaluation and selection are the following:

3.2.3.4.1 Upon receipt of the application package, the NRCP shall check and ensure the completeness of the requirements submitted.

3.2.3.4.2 The NRCP shall write the RD Leader applicants to acknowledge receipt of the application documents. For those with incomplete submission, NRCP shall inform the applicants of the lacking requirement/s and request for immediate submission.

3.2.3.4.3 Complete applications shall be screened and evaluated based on the information declared in the documents in relation to the specific requirements of the requesting HEI, RDI or NGA.

3.2.3.4.4 The NRCP shall notify the applicants who will not be able to proceed to the interview of the NEC. Likewise, NRCP shall communicate with the shortlisted applicants to be evaluated further by the NEC.

- 3.2.3.4.5 In the event of non-selection of any applicant to the role, NRCP shall coordinate again with the requesting HEI, RDI or NGA and republish the “Call for RD Leader” as may be necessary and/or explore other means to find the needed expert/s.
- 3.2.3.4.6 Successful applicants shall be endorsed to the Executive Director of NRCP, who shall be informing the DOST-EXECOM of the successful RDLead Program applicant/s.
- 3.2.3.4.7 NRCP shall write to the successful applicant regarding his/her selection. It shall also inform the requesting HEI, RDI or NGA, copy furnished the concerned DOST Regional Office, Executive Director of the relevant Sectoral Council/s (PCAARRD, PCHRD, and/or PCIEERD), the Office of the Undersecretary for R&D, and the Office of the Undersecretary for Regional Operations.
- 3.2.3.4.8 The NRCP shall facilitate the hiring of the RD Leader. The process for the procurement of consulting/ professional services will follow the provisions of R.A. 9184 and its IRR. The rate of remuneration will be determined by the NRCP, which shall be based on the proposed nature and scope of work of the RD Leader.
- 3.2.3.4.9 The successful applicant shall sign a Memorandum of Agreement with the Terms of Reference (TOR) together with the authorized representative of the requesting HEI, RDI or NGA, and the NRCP Executive Director.
- 3.2.3.4.10 NRCP shall process the payment for the RD Leader upon the satisfactory completion of deliverables stated in the TOR as certified by the HEI, RDI or NGA. The payment shall be made in three (3) tranches as stipulated in the TOR.

3.2.4 APPLICATION REQUIREMENTS

- 3.2.4.1 The initial application package of the expert shall contain the following requirements:
 - a. Signed and updated curriculum vitae with photo; and,

- b. PhilGEPS registration number as an individual consultant (www.philgeps.gov.ph).

3.2.4.2 Once there is a matching request from HEI, RDI or NGA for the expertise of the applicant, NRCP shall require the submission of the following documents which shall be used for the preliminary paper screening for the interview.

- a. Accomplished and signed RDLead Expert's Profile Form;
- b. Copy of valid professional license, (if applicable); and,
- c. Certified Copy of diploma or Transcript of Academic Record for highest degree attained, and, if available, certificate of academic and/or professional achievements.

3.2.4.3 Upon his/her selection by the NEC, the expert shall submit:

- a. A certified true copy of Employment Certificate with salaries or latest filed Income Tax Return (ITR) and Business Registration for those who own a business;
- b. NBI and/or Ombudsman Clearance; and,
- c. Medical Certificate.

3.2.5 PROJECT IMPLEMENTATION AND MONITORING

3.2.5.1 NRCP shall facilitate and recruit suitable RD Leader applicants to provide the leadership and expertise in helping HEI, RDI or NGAs accelerate the creation and/or implementation of projects, programs, and/or other similar initiatives geared towards strengthening their R&D capabilities. The NRCP may explore all other available means outside its usual line of activities in order to expand its pool of potential RD Leaders to ensure availability of potential applicant/s to respond to the "Call for RD Leader/s" and undergo the RDLead Program selection process. Specifically, the NRCP shall do the following:

- a. Utilize the NRCP website, email groups, text blast, related DOST links, various social media platforms, NRCP Scientific Division Meetings, and other relevant NRCP and DOST activities in the dissemination of information regarding the NICER and the RDLead Program;
- b. Coordinate with HEI, RDIs or NGA identified to craft proposals for the establishment of a NICER and/or other R&D programs aimed at developing and/or enhancing the capacity of the HEI, RDI or NGA in

accessing DOST funding mechanisms including other available forms of support;

- c. Procure the consulting services in accordance with the provisions of RA 9184 once the request for RD Leader is cleared by NRCP and the relevant Sectoral Council of the DOST, for requests geared towards the establishment of NICERs;
- d. Work with the concerned HEI, RDI, or NGA in crafting the TOR, and in assisting the HEI, RDI, or NGA to ensure that the targeted RD Leader applicants will satisfy the needed requirements;
- e. Verify the documents submitted by the potential RD Leaders that these comply with the TOR and related government regulations;
- f. Award the project to the selected RD Leader/s following relevant procurement procedures on the selection and awarding of project contracts, and,
- g. Ensure regular submission of a progress report by the RD Leaders, as well as the terminal accomplishment report, as indicated in the Terms of Reference (TOR) endorsed by the HEI, RDI, or NGA.

3.2.5.2 The NRCP shall regularly report the accomplishments of the Program to the Science for Change-Project Management Office (S4C-PMO).

3.3 COLLABORATIVE RESEARCH AND DEVELOPMENT TO LEVERAGE PHILIPPINE ECONOMY (CRADLE) PROGRAM

In the World Economic Forum (WEF) Global Competitiveness Index 2019, the Philippines ranked 38th and 72nd, in terms of innovation capacity and research institutions prominence, respectively, out of 141 countries. Other ASEAN countries such as Malaysia ranked 30th and 38th, Indonesia 38th and 45th, and Thailand 44th and 43rd. In terms of overall Global Competitiveness, the Philippines ranked 64th compared to Malaysia at 27th, Indonesia at 50th, and Thailand at 40th.

With increasing economic and global competition and putting the ASEAN integration in perspective, the Philippines must implement initiatives that will improve the innovation ecosystem to leverage economic progress. Collaboration between private companies and the academe is an emerging strategy for knowledge exchange and production and utilization of new technologies that are yet to be maximized. According to the Philippine Innovation Ecosystem Assessment 2014 conducted by USAID, the innovation network between the academe and industry in the Philippines is characterized by “widespread mutual distrust and disregard.”

Industries are perceived as potentially exploitative, whereas the university is not trusted to deliver relevant and timely research outputs.

- i. Through the Collaborative Research and Development to Leverage Philippine Economy (CRADLE) Program, the DOST shall help create a synergistic relationship between the academe and the industry with the goal of invigorating Philippine R&D.
- ii. Under the CRADLE Program, the private sector industry shall identify the problem; and the HEIs or RDIs shall undertake the research and development. CRADLE funding shall only be given to the HEI or RDI. Together, the academe as producer of knowledge and human resource, and the industry as the entity that translates technologies to real world applications, shall generate new opportunities for Filipinos in the form of new industries, enterprises, jobs and solutions to pressing community and national problems. Furthermore, the collaboration shall ensure the timeliness and relevance of R&D endeavors, with reference to practical and pressing national needs.

3.3.1 GRANT OBJECTIVES

Under the CRADLE Program, the private sector industry shall identify the problem; and the Higher Education Institution (HEI) or Research and Development Institute (RDI) shall undertake research and development. To improve the R&D innovation ecosystem, the program shall have the following objectives:

- 3.3.1.1 Bridge the academe and the industry in order to stimulate collaboration that meets the needs of both academe and industry in one shot;
- 3.3.1.2 Target each level of the technology transfer process – from the pursuit of industry-driven basic research, academe-industry joint research, and product development stage to technology promotion/transfer and adoption;
- 3.3.1.3 Support both the pursuit of basic R&D and the transition of R&D results in the industry; and,
- 3.3.1.4 Engage both the academe and the industry into cooperation that is mutually beneficial, whereby the academe, through its R&D capability and human resource, supplies the R&D needs of the industry and in the process helping the industry gain innovative market advantages.



3.3.2 SELECTION CRITERIA

3.3.2.1 ELIGIBILITY OF PROPONENTS

For complete details on the eligibility of the proponents, application requirements, general criteria for evaluation, proposal formats, technical and financial monitoring, report submission and other provisions related to this funding, please refer to the Revised Guidelines of the DOST-Grants-In Aid Program (DOST-GIA) at the DOST website (www.dost.gov.ph).

3.3.2.2 GENERAL CRITERIA

3.3.2.2.1 All proposals shall be in line with the priority R&D areas and industries identified by the DOST and Department of Trade and Industry (DTI), namely:

- a. Agri-processing
- b. Agriculture, Fishery and Forestry
- c. Drug and herbal development
- d. IC Design
- e. Semiconductor and Electronics
- f. Creative Industries/Knowledge-based Services
- g. Renewable Energy
- h. Industrial Waste Treatment
- i. Information and Communication Technology (includes Artificial Intelligence)
- j. Food and Nutrition
- k. Infrastructure and Logistics
- l. Environment and Climate Change
- m. Manufacturing



- 3.3.2.2.2 The proposed project should be implemented for a period of 1-3 years at a maximum grant of five million pesos (P5M).
- 3.3.2.2.3 The HEI/RDI should have at least one partner company to collaborate which should have been registered for at least 3 years when the proposal is submitted.
- 3.3.2.2.4 The partner company shall provide a counterpart of at least twenty percent (20%) of the total project cost. Counterpart may be in cash, kind or person-hour support to the academe partner.
- 3.3.2.2.5 The HEI/RDI and the company must not have unsettled accountabilities with the DOST System.
- 3.3.2.2.6 The criteria for evaluation shall be based on the workability/technical viability of the proposed projects, social and environmental impacts, commercial viability of the technology/product or process, management capability of the proponents, and availability of competent and reliable workforce and facilities.

3.3.3 PROCEDURES FOR PROPOSALS' SUBMISSION, EVALUATION AND APPROVAL

- 3.3.3.1 The applicants (the HEI/RDI and the partner company) shall submit a joint letter of intent, full-blown proposal following the DOST Forms A, B, and 2B (downloadable from www.dost.gov.ph), and other documentary requirements, through the DOST Project Management Information System (DPMIS) at <https://dpmis.dost.gov.ph/> during the call for CRADLE proposals. The letter of intent should be signed by the authorized representative of both the HEI/RDI and the partner company. The proposal should be a joint undertaking between the HEI/RDI and the partner company.
- 3.3.3.2 The proposals will undergo the DOST-GIA evaluation process through the DOST Councils – NRCP, PCAARRD, PCHRD, and PCIEERD. Proposals recommended for funding by the Council's respective management team, shall be endorsed directly to the Office of the Undersecretary for R&D, for approval of the Undersecretary for R&D and for information of the respective Governing Council and DOST Executive Committee.



3.3.4 APPLICATION REQUIREMENTS

- 3.3.4.1 The full-blown proposal using DOST Forms No. 2B, Line-item Budget (Form A), and Work plan (Form B);
- 3.3.4.2 Business plan that includes details of how the research outputs from the projects will be used;
- 3.3.4.3 Certification from the partner company that the R&D output shall be adopted by the company following the Technology Adoption Certification (TAC) form;
- 3.3.4.4 Copy of business permits and licenses of the partner company for the past three (3) years from relevant LGUs and other government offices; and,
- 3.3.4.5 Certificate of Registration of Business Name with Department of Trade and Industry (DTI), Securities and Exchange Commission (SEC), or Cooperative Development Authority (CDA).

3.3.5 PRIORITY AREAS FOR FUNDING

- 3.3.5.1 All projects under the CRADLE Program shall be anchored to the priority areas identified in the HNRDA 2017-2022 and aligned with the Philippine Development Plan 2017-2022.
- 3.3.5.2 For 2013-2017, the Agenda focused on poverty alleviation and inclusive growth; and climate change adaptation/mitigation and disaster risk reduction. By 2022, the Philippines shall have developed a wide range of globally competitive products and services, which have high technology content.

3.3.6 PROJECT IMPLEMENTATION AND MONITORING

- 3.3.6.1 For CRADLE Program, an Academe-Industry Forum shall be convened. The DOST-RO shall strengthen the Academe-Industry collaboration in the regions by linking industries with R&D needs to the appropriate HEI/RDI. The DOST-RO may conduct activities such as consultations or write shops to generate CRADLE proposals.
- 3.3.6.2 To start the collaboration, aside from the call for proposals, DOST may conduct a forum between private industries and HEIs/RIDs.



a. For Large Filipino Companies (LFCs)
A single large Filipino Company will state its problem to a group of HEIs/RDIs; collaboration will transpire between the LFC and the chosen HEI/RDI that can address its problem.

b. For SMEs
Several SMEs will state their problems to the HEIs/RDIs and collaboration may materialize based on the most appropriate HEI-SME problem-solution match.

3.3.6.3 For CRADLE and BIST Programs, a Steering Committee shall be convened. It shall consist of representatives from the Private Industry Sector, Department of Trade and Industry (DTI), and the three (3) DOST Sectoral Councils, National Economic and Development Authority (NEDA) and Commission on Higher Education (CHED).

3.3.6.4 For CRADLE Program, the implementing agency and the industry partner shall sign a Collaborative Research Agreement (CRA) or equivalent document and should be submitted within the first year of project implementation. It should cover at least the following items:

- a. Responsibilities of both parties;
- b. Ownership of Intellectual Property; and,
- c. Rights to pursue succeeding research.

3.4 BUSINESS INNOVATION THROUGH S&T (BIST) FOR INDUSTRY PROGRAM

Global trends suggest that economic growth is related to the number of technology/innovation generated and as such the expenditures on Research and Development (R&D) are a necessary ingredient for the productivity growth of many countries. It has been reported that the Philippines improved its ranking on the innovation index from 2010-2015. However, despite the country's global improvement the government is still underinvesting in R&D activities. Based on the 2015 World Bank data on R&D expenditure, the Philippines is spending only 0.15% of its GDP which is low compared to ASEAN countries such as Thailand, Malaysia, and Singapore.

Accordingly, the private sector has an indispensable role in national growth and development. The government needs to demonstrate risk taking in R&D and new technologies, in partnership with the private sector, thus sharing the risk in undertaking R&D and investing in new technologies, lessening the commercial risk that will be taken by the industry.

It is in this context that the Department of Science and Technology is embarking on strengthening the science, technology, and innovation (STI) activities of industry

sectors to enhance the competitiveness level of Filipino companies through the acquisition of strategic and relevant technologies.

- i. Business Innovation through S&T (BIST) for Industry Program of DOST aims to facilitate the acquisition of strategic and relevant technologies by Filipino companies for immediate incorporation in their R&D activities.
- ii. This program will contribute to the technology development value chain as it provides the means for the industry to undertake R&D and acquire advanced technology for global competitiveness.
- iii. The BIST will provide financial assistance to private companies to undertake R&D and enhance their research and technological capacity. The financial assistance can be used for the acquisition of high-tech equipment and machinery, technology licensing, and acquisition of patent rights. The total assistance provided shall be returned to DOST based on the agreed refund schedule with the private company.

3.4.1 GRANT OBJECTIVES

The establishment of the BIST for Industry Program aims to level-up the innovation capacity of the Philippine Industrial Sector through R&D, and the acquisition of strategic and relevant technologies to enhance their research, technology level and production processes. Specifically, the Program aims to:

- 3.4.1.1 Promote R&D-based industry, and technology upgrading through the introduction and utilization of modern and efficient technology in the manufacturing and physical development of existing and new products or processes; and,
- 3.4.1.2 Enhance the competitiveness of industries to enable them to compete globally.

3.4.2 SELECTION CRITERIA

3.4.2.1 ELIGIBILITY OF PROPONENTS

- 3.4.2.1.1 The grants under the BIST Program will be available to private industry companies or their consortium/organizations, incorporated in the Philippines. A private industry company shall refer to any juridical entity such as but not limited to people's organization, consortia (there will be one main corporation participant), industry/trade/business associations, and other similar private entities.

3.4.2.1.2 The proponent must be a Filipino-owned corporation with at least sixty percent (60%) of the capital owned by the citizens of the Philippines.

3.4.2.1.3 The prospective companies should have proven technical, financial and marketing background and must have been operational in the country for at least (3) years.

3.4.2.1.4 The amount of financial assistance for the company's R&D shall be determined by the revenue and assets of the company based on the financial/tax report submitted.

3.4.2.1.5 Preference shall be given to proposals from Small and Medium companies following RA No. 9501 known as "Magna Carta for Micro, Small and Medium Enterprises (MSMEs)" as amended by RA No. 6977 categorized based on assets as: Small: more than Php 3,000,000 – Php 15,000,000; Medium: more than Php 15,000,000 – Php P100,000,000. Applications from large enterprise or those with assets of more than Php100,000,000 are also welcome.

3.4.2.1.6 Eligible expenses

The acquisition of technology shall be in the form of acquiring know-how/rights/ blueprints of a registered Intellectual Property via one of the following methods:

- a. Licensing of technology
- b. Outright purchase of hardware/software for R& D

Note: R&D research does not include market research

3.4.2.2 GENERAL CRITERIA

3.4.2.2.1 All proposals for technology acquisition submitted shall be in line with the priority industries identified by DOST and the Department of Trade and Industry (DTI), namely:

- a. Agri-processing
- b. Agriculture, Fishery and Forestry

- c. Drug and herbal development
- d. IC Design
- e. Semiconductor and Electronics
- f. Creative Industries/Knowledge-based Services
- g. Renewable Energy
- h. Industrial Waste Treatment
- i. Information and Communication Technology
(includes Artificial Intelligence)
- j. Food and Nutrition
- k. Infrastructure and Logistics
- l. Environment and Climate Change
- m. Manufacturing

3.4.2.2.2 The technology to be acquired must be a registered Intellectual Property (Patent/Copyright/Industrial Design) with proven and significant sales volume.

3.4.2.2.3 The proposed technology must be tangible in nature or can be incorporated into a tangible product.

3.4.2.2.4 The hardware/software to be acquired must be used for R&D.

3.4.2.2.5 The technology provider must not hold a controlling stake in any private company in the Philippines.

3.4.2.2.6 The appropriate Council shall regularly monitor the company. Failure to deliver the expected outputs after Year 1 will be grounds for project termination. DOST has the right to revoke and retrieve the amount disbursed to the company through the legal channel.

3.4.2.2.7 The criteria for evaluation will be based on the workability/technical viability of the proposed projects, social and environmental impacts, commercial viability of the technology/product or process, management capability of the proponents,

and availability of competent and reliable workforce and facilities.

3.4.2.2.8 Funding Structure

Through BIST, the DOST shall provide financial assistance to the private sector industries through the following funding structure:

For licensing of technology and purchase of equipment, 70% of the eligible expenses to be provided by DOST while the remaining 30% of funding must be sourced by the applicant as counterpart.

3.4.2.2.9 Fund Release

- a. Upon approval of the proposal, a Memorandum of Agreement (MOA) or Memorandum of Instruction (MOI) shall be issued by the Science for Change - Project Management Office (S4C-PMO) – Office of the Undersecretary for R&D. The schedule of fund releases and the submission of required outputs shall be agreed to and indicated in the MOA.
- b. DOST shall release the project funds to the Implementing Agency in partial or full amount, once the MOA/MOI or conforme letter has been signed subject to availability of funds, accounting and auditing regulations, and bond requirements (if necessary).
- c. Project funds shall be deposited in an authorized government depository bank.
- d. The subsequent release of funds to continuing projects shall be subject to the submission of necessary financial reports, appropriate endorsement and other requirements.

The BIST Program shall be funded under the DOST-GIA and it shall be governed by the GIA Guidelines particularly the grants administration, refund mechanism, and the cost, maintenance, and ownership of equipment.



3.4.2.2.10 Funding Mechanism

- a. The proposed technology acquisition shall be a multi-year project with a duration of three (3) to five (5) years.
- b. Refund of project funds shall commence on the third year of the project implementation and shall be clearly stated in the MOA. The refund shall be for a period of three (3) to five (5) years depending on the nature of the technology acquired and financial capacity of the proponent subject to the approval of the DOST-EXECOM.
- c. The release of funds to the private sector will only take effect after the approval of the project which shall undergo Technology Needs Assessment (if necessary), and the DOST-GIA evaluation process through the DOST Councils – NRCP, PCAARRD, PCHRD, and PCIEERD for endorsement and approval of the DOST-Executive Committee.
- d. Once the project is approved, a Memorandum of Agreement (MOA) shall be signed by the concerned parties – DOST as the funding agency, appropriate DOST Council as Monitoring Agency, Regional Office as co-Monitoring Agency and head of the private company as proponent. Once signed and notarized, the release of funds will be processed. Post-dated checks for the refund shall be issued by the proponent to the Funding Agency through the Regional Office with the assistance of the Monitoring Agency.
- e. The DOST and the Monitoring Agencies (DOST Council and Regional Office) shall ensure that funds are used to purchase or fabricate materials/equipment as indicated in the approved LIB. Otherwise, the amount provided for such purpose shall be refunded to the Funding Agency with a 12% penalty charge per annum especially if the project was prematurely terminated or the funds were not used as originally intended.
- f. If a beneficiary is unable to refund the total amount due to the Funding Agency, DOST, together with the Monitoring Agencies, shall



pull-out the equipment procured under the project or collect other forms of payment. If it is not possible to get the equipment back, the DOST shall initiate legal proceedings in coordination with the insurance company concerned.

- g. Appropriate DOST Regional Office (DOST RO) will assist the monitoring agency (DOST Council) to ensure that refunds are made as scheduled to DOST- Central Office (DOST-CO).

3.4.3 PROCEDURES FOR PROPOSALS' SUBMISSION, EVALUATION AND APPROVAL

- 3.4.3.1 Interested private companies shall submit a letter of intent, full-blown proposal (DOST Form No. 2B), line-item budget (Form A), work plan (Form B) and other documentary requirements downloadable from www.dost.gov.ph, through the DOST Project Management Information System (DPMIS) at <https://dpmis.dost.gov.ph/> to avail of assistance under the BIST Program.
- 3.4.3.2 The private company shall furnish a copy to the appropriate Regional Office and Office of the Undersecretary for Regional Operations (OUsecRO) in the letter of intent addressed to the Office of the Undersecretary for Research and Development (OUsecRD).
- 3.4.3.3 The OUsecRD through the appropriate DOST Council and Regional Office shall conduct a Technology Needs Assessment (TNA), if and when necessary, to identify the company's current issues/concerns that need to be addressed, requirement for improvements and potential scientific and technological interventions needed.
- 3.4.3.4 The proposals shall undergo the DOST-GIA evaluation process through the DOST Councils – NRCP, PCAARRD, PCHRD, and PCIEERD, for endorsement and approval of the DOST-Executive Committee.




3.4.4 APPLICATION REQUIREMENTS

- 3.4.4.1 Full-blown proposal following the DOST Forms No. 2B, A, and B;
- 3.4.4.2 Letter of intent to avail of the BIST assistance; stating a commitment to refund the cost of technology acquisition and cover the insurance cost of the acquired technology/equipment;
- 3.4.4.3 Fully accomplished DOST TNA Form 1, "Application for Technology Needs Assessment," to be conducted by appropriate Council, if necessary;
- 3.4.4.4 Copy of business permits and licenses issued by the LGUs and other government offices for the past three (3) years;
- 3.4.4.5 Certificate of registration with the DTI or SEC, whichever is applicable;
- 3.4.4.6 Financial statements for the last two (2) years;
- 3.4.4.7 Business plan including itemized costing, manufacturing and operational plan, and financial projection;
- 3.4.4.8 Curriculum Vitae of Management and Technical Team;
- 3.4.4.9 Availability of company's Official Receipt; and,
- 3.4.4.10 Technology Transfer Agreement (Licensing/Outright purchase) to include the following details:
 - a. Amount of licensing
 - b. Market territory
 - c. Royalty
 - d. Duration
 - e. Exclusivity
 - f. Payment schedule
 - g. Project milestone



3.4.5 PRIORITY AREAS FOR FUNDING

In scaling up and opening R&D opportunities to a broader segment of the population, the BIST Program will prioritize the following industry sectors.

- a. Agri-processing
 - b. Agriculture, Fishery and Forestry
 - c. Drug and herbal development
 - d. IC Design
 - e. Semiconductor and Electronics
 - f. Creative Industries/Knowledge-based Services
 - g. Renewable Energy
 - h. Industrial Waste Treatment
 - i. Information and Communication Technology (includes Artificial Intelligence)
 - j. Food and Nutrition
 - k. Infrastructure and Logistics
 - l. Environment and Climate Change
 - m. Manufacturing
- 

3.4.6 PROCUREMENT AND OWNERSHIP OF EQUIPMENT

3.4.6.1 For the BIST Program, once the amount is fully refunded, ownership of the equipment shall be transferred to the private company/proponent.

3.4.6.2 Any revision of relevant government accounting and auditing rules and regulations shall apply.

4. S4C PROGRAM MANAGEMENT OFFICE

The Project Management Office for the Science for Change Program (PMO-S4C) shall ensure the effective and efficient implementation of the NICER, RDLead, CRADLE, and BIST Programs. It shall perform coordinating and Secretariat functions required in the accomplishment of the program objectives, as well as the promotion of the programs.

The DOST ROs shall assist in monitoring the implementation of the approved S4C projects in the regions.

5. GENERAL PROVISIONS

- 5.1 It is understood that these guidelines are consistent with the Implementing Guidelines for GIA Programs and Projects of DOST. In case of conflict, the GIA guidelines shall prevail.
- 5.2 Failure to comply with the applicable laws, rules and regulations, particularly those governing GIA programs and projects shall be a ground for the termination of the project.
- 5.3 The guidelines shall be subject to the rules and regulations of the Commission on Audit (COA).
- 5.4 Ownership and Utilization of IPs and Intellectual Property Rights (IPRs) resulting from the program or projects shall be governed by the RA 10055 or the “Philippine Technology Transfer Act of 2009” and its Implementing Rules and Regulations.

6. EFFECTIVITY

This Administrative Order shall take effect fifteen (15) days after publication in the Official Gazette and upon filing at the UP Law Center.

Approved by:



FORTUNATO T. DE LA PEÑA
Secretary