

Implementation Policy for FY2020

Innovation Promotion Department

1. Subject name: Moonshot Research and Development Program

2. Basis law

Item 2, Article 15 of the Act on the New Energy and Industrial Technology Development Organization.

3. Background and purpose

Considering that Japan faces many difficult challenges today, science and technology is expected to boldly try to solve these challenges, and develop prospects for the society of the future.

In Japan, many ingenious technical results that have the potential to innovate future industries and society (creation of disruptive innovation) are being produced in the area of fundamental research. However, the research and development systems for sufficiently rapid realization of technical results in industries and society, and for deploying them on a global basis, have not been established.

With the aim of creating disruptive innovation, Europe, America and China are trying to realize ambitious ideas, and trying to solve difficult social issues which are far beyond the mere extension of traditional technologies, through the aggressive promotion of challenging research and development with high risk and high impact, based on an extraordinary scale of investment, compared to that of Japan.

In light of these situations, the Council for Science, Technology and Innovation (hereinafter referred to as "CSTI") decided to promote challenging research and development ("Moonshot") based on bolder ideas that are far beyond the mere extension of traditional technologies, with the aim of creating disruptive innovation from Japan. This program, which is designed to:

- 1) View future society and set ambitious goals ("Moonshot Goals", hereinafter referred to as "MS Goals") and ideas which will fascinate people in connection with social

issues and others, which are difficult to solve, but if solved, are expected to have a great impact, and to bring together the wisdom of researchers from throughout the world under the supervision of the best researchers who can lead state-of-the-art research, and to realize MS Goals.

- 2) Aggressively promote challenging research and development, which will exert Japan's ability for fundamental research to the maximum, and discover and develop innovative technical results while accepting failure at times, given today's situation where a variety of insights and ideas in the fundamental research phase are being applied to industries and society at a remarkable pace, and disruptive innovation is being generated in various fields.
- 3) Renew the method of managing such research and development so that the entire picture of related research and development can be seen, and the strategy and content of the research can be flexibly reviewed, with the focus being placed always on the trend of research and development advancing in the world, and establish the most current research support system; to provide an opportunity for discussion with a variety kinds of persons from the standpoint of smooth social implementation of technical results, and establish a research system in which ethical and social issues, as well as issues concerning the legal system, may be examined by researchers in various disciplines, including the humanities; and to make efforts for the complete implementation of an open/closed strategy, with future commercialization taken into consideration.

These will be promoted through the combined efforts of relevant government offices under the direction of the controllers: CSTI, and the Headquarters for Healthcare Policy.

The National Research and Development Agency New Energy and Industrial Technology Development Organization (hereinafter referred to as "NEDO") will, as the research promotion agencies (funding agencies, hereinafter referred to as FAs) responsible for the work related to research and development, establish a fund and promote the program and development based on the Basic Plan. The program will be executed in accordance with the "Basic Ideas on the Moonshot Research and Development Program" (Decision of The Council for Science, Technology and Innovation, as of December 20, 2018), and the "Guidelines for Operation and Evaluation of the Moonshot R&D Program".

4. Details of the program

4.1 Program overview

For this program, NEDO will appoint Project Managers (hereinafter referred to as "PMs") who will be responsible for managing research and development, and research and development implementers, through Public Call to execute research and development, taking into consideration of MS Goals which are determined by CSTI, and the R&D concept (hereinafter referred to as the concept) which is established by the Ministry of Economy, Trade and Industry. Toward the realization of MS Goals, information on the trends of domestic and overseas research and development and on the issues toward social implementation of the results of research and development will be collected and analyzed.

4.2 Policy for the program

(1) Qualifying business operators

Although the PM's nationality are irrelevant, the PM is basically expected to be based in Japan.

The research and development implementers will be multiple research institutes, including domestic and overseas companies and universities (hereinafter referred to as "Organizations"), which will participate in research and development as an optimal research and development system for realizing NEDO's MS Goal, and the concept. Overseas Organizations will be selected for participation based on the conditions that will be set forth separately.

(2) Qualifying research and development projects

Projects should aim to realize NEDO's MS Goal which are determined by CSTI, and the concept which is established by the Ministry of Economy, Trade and Industry.

(3) Screening items

The screening will be performed with the focus being put on the following points. Details will be set forth in the Guidelines for Public Call.

(i) PM

- To have an extensive human network of related researchers and others, both inside and outside of Japan, and professional knowledge, so that the applicant can promote cutting edge research and development
- To be sufficiently excellent in management and leadership so as to establish an

optimal research and development system, and revise the system in a timely manner in response to the status of the progress

(ii) Content and structure of development

- Is the content of the proposal compliant with NEDO's MS Goal and the concept? (Is there anything superfluous?)
- Is the proposed method novel and technically excellent?
- Is the content of the proposals complementary with each other as well as efficient and effective system?
- Are the proposal content and the research plan feasible? (Technical feasibility, appropriateness of the plan and interim goals, etc.)
- Is the applicant capable of carrying out the research and development?
(Achievements such as development in the related area, an execution system that includes potential Re-Entrustees, participation of excellent researchers, etc.)
- If the applicant takes charge of the research and development, can any ripple effects be expected for the national life and the economy of society?

5. Method for executing the program

5.1 Implementation Scheme (See Attachment 1).

5.2 Public Call

(1) Media to be posted

Public Call will be posted on the NEDO Website and the e-Rad Portal Site.

(2) The timing and frequency of Public Call

Public Call will be made in February 2020. If necessary, an additional Public Call will be made.

(4) Period of Public Call

Sixty days.

(5) Orientation meeting for the Public Call

Meetings will be held in Kawasaki, Osaka, and other cities.

5.3 Adoption method

(1) Screening method

Entry of basic application information in the e-Rad system is mandatory.

After a preliminary review of proposals by the program director (hereinafter referred to as the "PD") and external experts, and after a meeting of the Adoption Examination Committee, the Contract/Grant Examination Committee will make a decision.

Furthermore, proposals to be adopted will be selected in collaboration with the related departments within NEDO.

Members of the Adoption Examination Committee will be disclosed at the time of the disclosure of the adoption results.

(2) Period from the closing of the Public Call until the determination of adoption

Seventy-five days.

(3) Notification of adoption results

Applicants will be notified of adoption results by NEDO. Rejected applicants will be further notified of clear reasons for rejection.

(4) Disclosure of adoption results

As for adopted proposals, the name of the applicant, and the name and outline of the research and development theme will be disclosed.

5.4 Matters concerning evaluations

NEDO will perform external evaluations and self-evaluations on the basis of the "Guidelines for Operation and Evaluation of the Moonshot R&D Program" and the "Regulations for Execution of Technical Evaluation".

6. Other important items

6.1 Execution of multi-year contracts

Depending on the adoption results, multi-year contracts (three-year contracts up to the maximum period of the interim evaluation) will be executed.

6.2 Other

(1) Operations as to IPR management

The Basic Policy for IPR Management in NEDO Moonshot Research and Development Programs will apply to this project.

(2) Operation in regard to data management

The Basic Policy for Data Management in NEDO Moonshot Research and Development Programs will apply to this program. In addition, the PD and the PMs will promote advanced data management, including promotion of the exchange of information amongst researchers, and the storage, sharing, and publication of research data.

7. Schedule

7.1 Schedule for this fiscal year

Mid-February 2020 Start of Public Call

February 2020 Orientation meeting for Public Call

Mid-April 2020 Closing of Public Call

Early July 2020 Decision of adoption

8. Revision History of the Implementation Policy

(1) Established in February 2020

Attachment 1

