

Moonshot R&D Program

Project Manager Recruitment

Explanatory Materials



国立研究開発法人 日本医療研究開発機構
Japan Agency for Medical Research and Development

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1. Overview of the Moonshot R&D
2. Call for Proposals
3. R&D after Project adoption
4. Precautions

- A moonshot research and development program has been established to gather scientific knowledge from around the world and to pursue challenging scientific research through the joint efforts of various ministries and agencies. The goal is to resolve various challenging issues facing our country, such as lower birthrates and greater longevity, preparedness for large-scale natural disasters, and global warming.
- The program does not target R&D projects involving a mere combination of existing technologies. Rather, it seeks to promote challenging research (i.e., research programs of groundbreaking ambition) incorporating out-of-the-box knowledge and ideas still in their basic research phases; to cultivate innovative research results while tolerating dead-ends and failures; and to generate disruptive innovations.

【Features of the Moonshot R&D Program】

1. Set ambitious targets that attract people and researchers all over the world

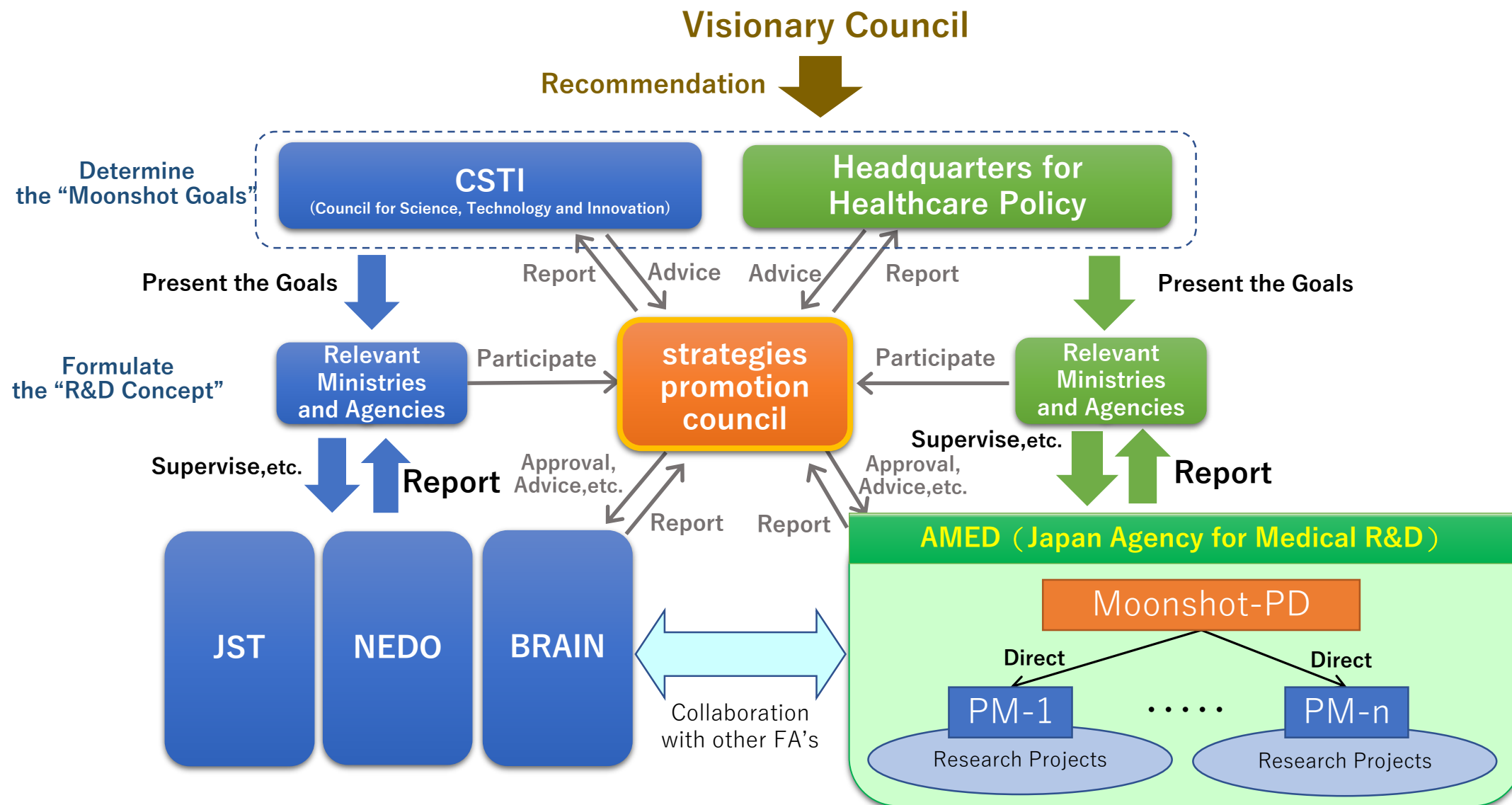
→ **Create innovation through international collaborations**

2. Promote innovative R&D through trial and errors and maximizing the basic research capabilities

→ **Create innovation from basic research and positive feedbacks that attract new basic research investments**

3. Innovate research management methods, establish cutting-edge research support system, and implement open and closed strategies

→ **Adopt world trends and establish challenging and speedy research management systems**



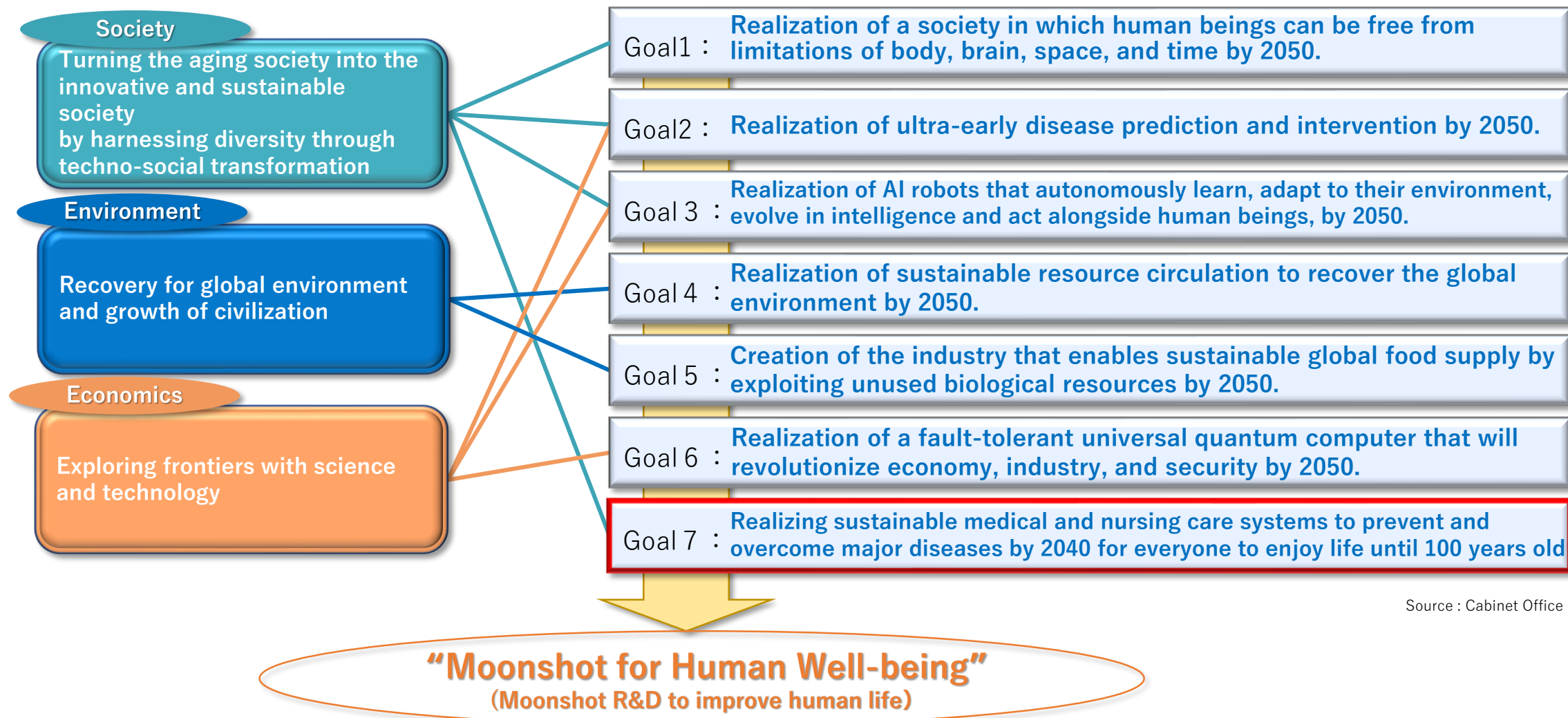
PD : Program Director

PM : Project Manager

The goals are set in the following 3 spheres

(The social, environmental, and economic spheres, all central to happy, vital lives)

7 goals to achieve in the long term



Source : Cabinet Office

“Realization of sustainable medical and nursing care systems to prevent and overcome major diseases by 2040, for everyone to enjoy life without health anxiety until 100 years old.”

【Target of Moonshot Goal】

1. Realization of a society where everyone can prevent diseases spontaneously in daily life.

- Establish infrastructure to maintain good health physically and mentally by developing technologies, in order to keep good health and prevent the onset and aggravation of diseases by control of immune systems or sleep, etc.; to visualize individual physical and mental state in daily life and to urge people to voluntarily take healthy maintenance actions most suitable for them by 2040.
- Develop technologies to monitor all living body trends with lower physical and mental load by 2030.

2. Realization of a medical network accessible for anyone from anywhere in the world

- Establish a medical network to provide the same level of medical care as a normal time regardless of region and even upon disasters and emergencies by developing diagnostic and treatment devices for simple tests and treatments at home, etc. and diagnosis- and treatment-free technologies for part of chronic diseases by 2040. In addition, develop methods for radical treatment and earlier intervention for diseases such as cancer and dementia by substantially reducing the development period of drugs and medical devices, etc. through establishment of data science and evaluation systems by 2040.
- Establish a technology platform to provide quality medical and nursing care suitable for each individual appropriately even with less providers by developing compact, speedy and high-sensitivity diagnostic and treatment devices as well as technologies to further enhance doctors' medical opinion and diagnostic capability by 2030.

3. Realization of drastic improvement of QoL without feeling load (realization of an inclusive society without health disparity)

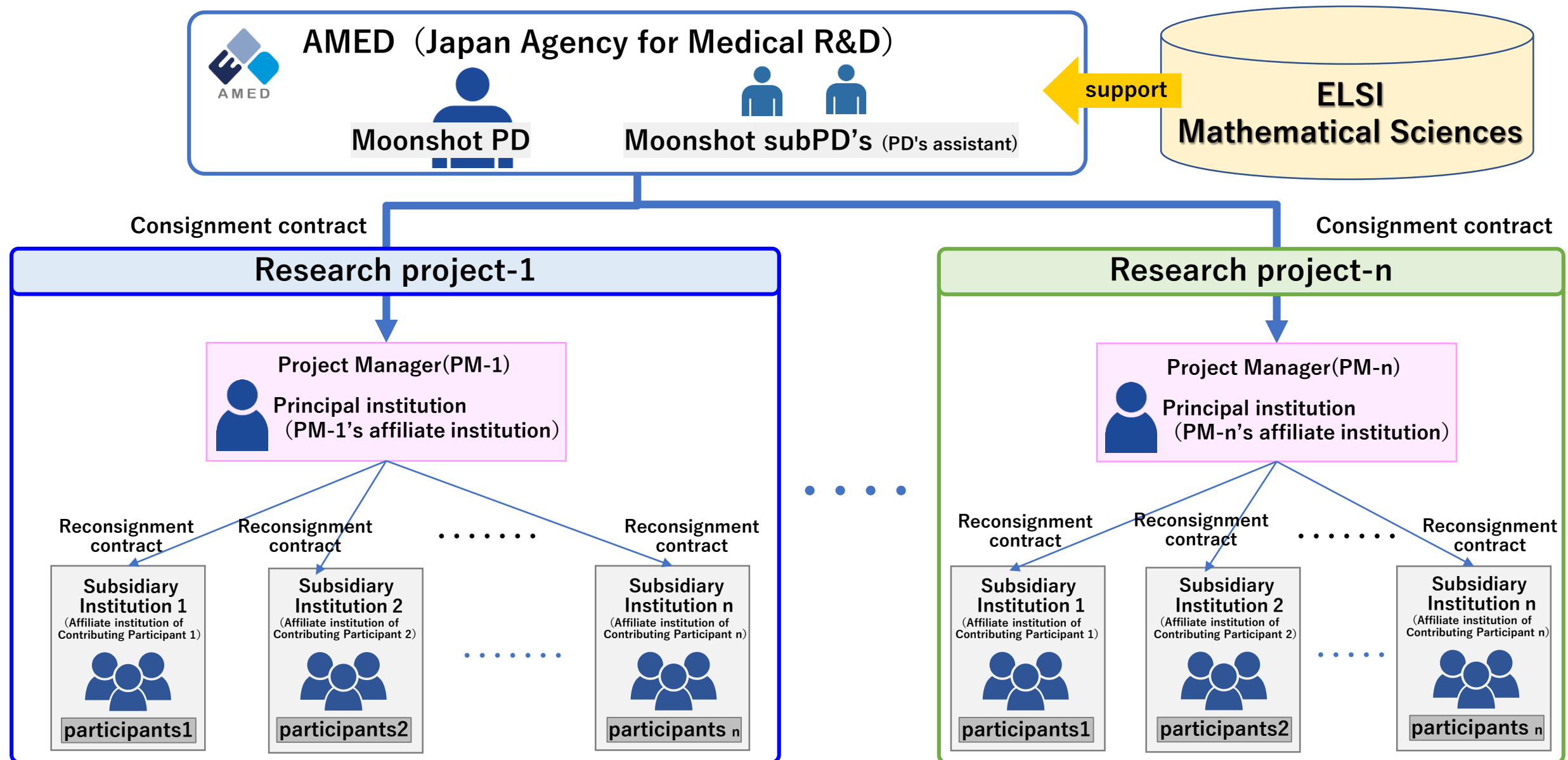
- Establish a social infrastructure to enable self-reliant life at home without depending on nursing care by developing such technologies as the recovery of body function with rehabilitation without feeling load, normalization of ailing biocontrol systems, regeneration or substitution of weakened organs and so forth by 2040.
- Develop technologies to improve body function through load-reducing rehabilitation and support self-reliant life at home and to improve ailing living biocontrol systems by 2030.

(Reference: Future Visions to be achieved)

Sustainable care system for enjoying one's life until 100 years old

- Realization of sustainable medical and nursing care systems to prevent and overcome major diseases by 2040, for everyone to enjoy life without health anxiety until 100 years old.





Moonshot PD : Toshio Hirano (President, National Institutes for Quantum and Radiological Science and Technology)

1. Build a strategic portfolio (a management plan summarizing policies regarding project structures (mixes) and resource allocation) and promote R&D activities in a challenging and systematic way, with the goal of the MS Objective and realization of the R&D concepts in mind.
2. To build a strategic portfolio, adopt several projects using different research methods selected in light of the innovative and ambitious nature of the R&D activities envisioned and the scope of future socioeconomic consequences.
3. Continually monitor R&D activities under the portfolio, reappraise the portfolio according to the status of research activities, and exercise unified direction and supervision over the PM, who in turn is responsible for administering each project.
4. Take the lead in portfolio reappraisals based on evaluations by outside experts and advice from the strategies promotion council.

1. Under the direction of the PD, refine a proposed project during an open call to improve it, draw up a **project plan** (target setting of project, preparation of R&D details and implementation schedule, establishment of an R&D system to implement the project, and formulation of a plan to allocate research funding to participating R&D institutions in the project), and strategically implement the project. Moreover, flexibly and nimbly implement project modifications and changes in direction, including practical use of some research results in society.
2. Properly manage intellectual property and information, and actively and strategically promote international cooperation.
3. Objectively evaluate the research content, seek sponsors from private enterprises if R&D is at the phase at which private funding can be used, and also try to draw on private funding. In addition, conduct bi-directional communication activities (public dialogue on science and technology) to explain the research activities to society.
4. Develop a data management plan (DMP) that defines the data to be managed, and also aggregate metadata^{*1} about the data to be managed from researchers based on DMP, and submit that to AMED. In addition, with system such as the Research Data Infrastructure System, store and share the data to be managed, and publish the data to the extent necessary.

^{*1}Metadata is not the data itself. The term refers to descriptive information concerning data characteristics, including data title, description, manager and location, contact details, and policies on data storage, sharing and public release.

1. Period of R&D Project

- 5 years in principle from the start of research.
- The project will be evaluated in 3rd year. In addition, the project will be evaluated in 5th year and when PD needs to do. The project may be changed (increased / decreased) or finished according to its result.
- If the decision to continue the project beyond year 5 is made based on evaluations, the maximum R&D period will be 10 years.

2. Funds of R&D Project

- Since there are no specified upper or lower limits per proposal, the applicant should calculate the estimated necessary budgets for the themes.
- Nevertheless, fund availability is limited as follows:

Available funds (approximate): two billion yen per proposal per five years (excluding indirect expenses)

As a condition attached to selection, changes may be requested with regard to implementation plans, including the R&D budget and research implementation system.

The proposed R&D expenses may need to be changed accordingly.

Requirements for the Principal Institution and Subsidiary Institutions

- **The principal and subsidiary institutions with which the PM and contributing participants are affiliated must be domestic institutions meeting requirements (1) through (5) below. ***
- **The institutions with which contributing participants are affiliated may be either domestic institutions meeting requirements (1) through (5) below or overseas institutions meeting requirements (2) through (5) below.**

(1) The following research institutions

- National facility or other organization.
- Research institute, etc., affiliated with a local public body.
- University as prescribed under the School Education Act or university affiliated research institute, etc.
- R&D division or research laboratory, etc. of a private enterprise.
- A special private corporation, general incorporated association, general incorporated foundation, public interest incorporated association, or public interest incorporated foundation (hereinafter referred to as a “special private corporation, etc.”) whose main activity purpose is research.)
- An independent administrative corporation as prescribed under Article 2 of the Act on General Rules for Incorporated Administrative Agencies or local incorporated administrative agency as prescribed under Article 2 of the Act on Local Incorporated Administrative Agencies whose main activity purpose is research.
- Non-profit, charitable technology research associations
- Other institution deemed appropriate by the President of AMED.

(2) In the case that the project is selected, the research institute’s facilities and equipment can be used for carrying out the project.

(3) In the case that the project is selected, the research institute is able to carry out administrative procedures such as contract procedures.

(4) In the case that the project is selected, the research institute is capable of responsibly handling any intellectual property rights generated through implementation of this program.

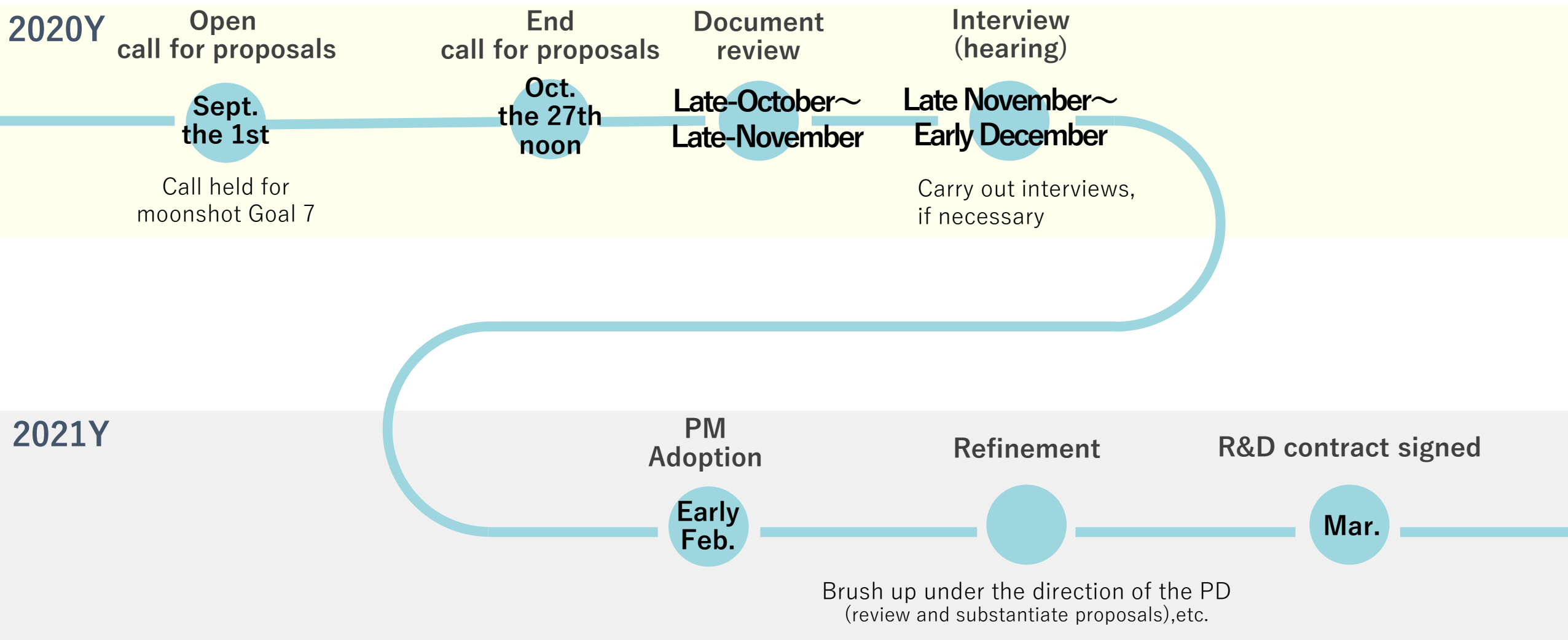
(5) The research institute is capable of continuing to promote R&D even after this program has concluded, and can support researchers in relation to this program.

* If a researcher unaffiliated with a particular research institution or affiliated with a research institution outside Japan is selected as PM, he or she will be required to establish an affiliation with an institution meeting the requirements below by the date on which the agreement is concluded or a date designated by AMED. If no such affiliation is established, the selection will be canceled.

Proposal documents in this Program will be reviewed mainly from the following viewpoints for the purpose of selecting the theme(s):

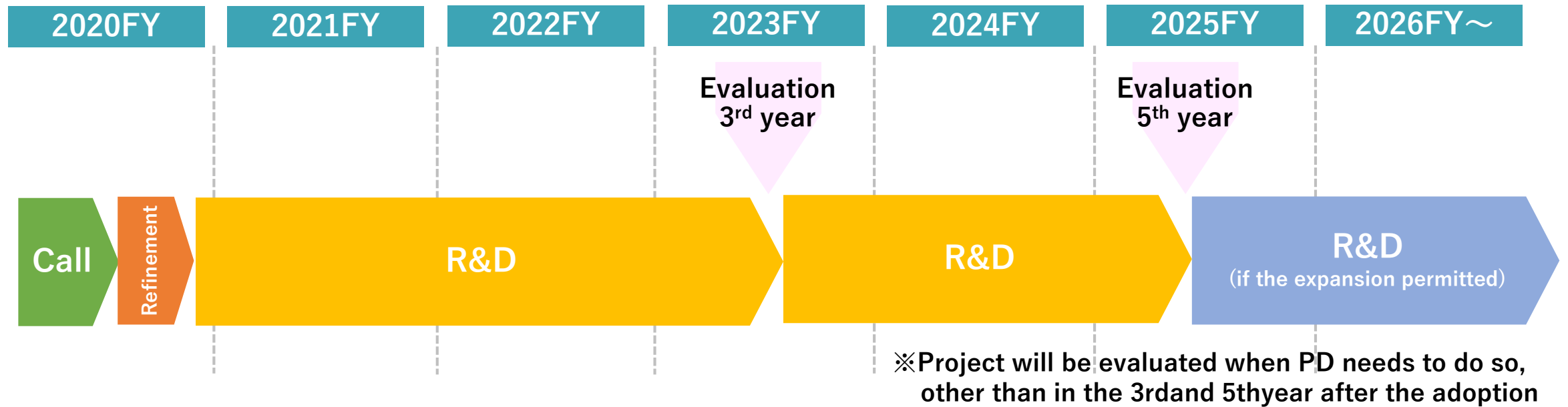
- a. The PM has expert knowledge and a wide human network such as relevant researchers inside and outside Japan, to promote cutting-edge research.
- b. The PM has management and leadership skills such as the ability to establish an optimal R&D system, and nimbly review the system according to the status of progress.
- c. The project targets and contents proposed by the PM (hereinafter referred to as proposal details) are challenging and based more on bold ideas than existing proposals, and comprise innovative proposals from which a substantial impact on future industry and society is expected.
- d. From the perspective of technical feasibility and practical use of its R&D results in society, there are appropriate scenarios (hypothesis for success) for achieving the MS Goal(s) by 2040 which can be clearly explained.
- e. The proposals contain top-level R&D capabilities, knowledge, and ideas, regardless of whether they come from inside or outside Japan.

From the call to the start of the R&D project



In general, notification of hearings will be issued by email at least one week in advance.

Timetable after selection



【Period】

- The project period is envisioned to be 5 years from the start of research.
If the expansion of project over 5 years, the duration will be 10 years at maximum.
- The project will be evaluated in 3rd year. In addition, the project will be evaluated in 5th year and when PD needs to do. The project may be changed (increased/decreased) or finished according to its result.

❑ **Updates will be posted at the moonshot application website.**

【Japanese】 https://www.amed.go.jp/koubo/18/03/1803B_00003.html

【English】 https://www.amed.go.jp/en/news/program/1803B_00001.html

❑ **Before applying for the post of PM for Moonshot Goal #7, be sure to read the following appendices for the Application Guidelines.**

- Appendix 1 : The basic approach for the Moonshot Research and Development Program
- Appendix 2 : Guidelines for Operation and Evaluation of the Moonshot R&D Program (Goal #7))
- Appendix 3,4 : Moonshot Goal #7
- Appendix 5 : R&D Concept for Moonshot Goal #7
- Appendix 6 : Supplementary Information from the PD



❑ **See here for AMED's DMP (data management plan).**

<https://www.amed.go.jp/koubo/datamanagement.html>

Applications are received via e-Rad, the cross-ministerial R&D management system.

- Please see the following URL for how to register :
- <https://www.e-rad.go.jp/en/>

【Help Desk】

Before contacting the e-Rad help desk, please prepare by following the steps below.

1. **Make sure you are logged in to e-Rad**
2. **Have the operation manual ready**



- ※ Not available on weekends, public holidays or during the New Year period (December 29 - January 3).
- ※ If you cannot use Navi Dial, you can reach us on the direct line below:
03-6631-0622(direct line)

- * Issues with last-minute applications are all too common. Please submit your application well in advance of the stated deadline.
- * Please understand that applications made after the deadline will not be accepted under any circumstance.
- * Note that an application cannot be accepted if the proposal is withdrawn after the application deadline.

Deadline

27/10/2020, noon (Japan Standard Time)

(Research proposal acceptance via e-Rad begins: 1/9/2020)

Please understand that applications made
after the deadline will not be accepted under any circumstance.

Please be sure to send us an **email**
if you have any questions about the open call.

Office of Project Management
-Division of Moonshot Research and Development Program

E-mail : moonshot@amed.go.jp

When contacting us, please include your name, affiliation and contact information.