Program for Creating Start-ups from Advanced Research and Technology (START): University Ecosystem Promotion Type

Supporting Creation of Startup Ecosystem in Startup Cities

Entrepreneurship Support Program
R&D Themes

Application Guidelines

Deadline for entry sheet submission: Noon on June 24, 2022 (Friday)

Deadline for application: Noon on July 20, 2022 (Wednesday)

June 2022

Hokkaido Startup Future Creation development by mutual support networks (HSFC)

1. Objective

In the US, GAFAM and other startups are now driving economic growth, and supporting employment and finance. Similarly in Europe and Asia, especially China, universities have become sources of new knowledge and bases for creating new industries.

While the number of startups is increasing in Japan in recent years due to strengthened support for startup ecosystem development, the gap between Japan and these countries is widening.

Japan is now facing the urgent challenge of creating a large number of startups that utilize technological innovations developed at universities in order to take full advantage of and rapidly commercialize the corresponding benefits.

Universities in Hokkaido have accumulated seeds that can be utilized globally and can drive the growth of domestic industries. Therefore, there are considerable expectations that startups from these universities will become increasingly active.

This program is a JST entrepreneurship support program to be implemented under the Program for Creating Start-ups from Advanced Research and Technology (START): University Ecosystem Promotion Type. With the aim of creating new industries through the creation of startups from Hokkaido, the program will explore the feasibility of seed research (proof of concept: PoC) and conduct R&D towards the establishment of business models.

2. Overview of HSFC

In order to promote this program, HOKKAIDO Startup Future Creation development by mutual support networks (HSFC) (H force, the power of wisdom) has been established by expanding and restructuring the Platform for developing startups from universities, etc., in Hokkaido, which was founded last fiscal year with Hokkaido University as its principal organization.

HSFC's mission is the continuing creation of a sustainable, new future society by integrating the knowledge of universities, etc., in Hokkaido, creating a cyclic ecosystem that is anchored in HSFC.

The societal implementation of research outcomes is one of the missions of educational and research institutes. HSFC will achieve this in the form of business startups, creating a new startup community in which not only researchers and students at universities, etc., but also various other stakeholders will promote business together.

In addition to calling for R&D themes, HSFC will offer opportunities to learn in an entrepreneurship support program and build networks. Through these opportunities, participants can gain experience that reinforces expertise, and acquire the problem-solving skills that will enable them to overcome difficulties by themselves, leading to self-actualization.

3. Application requirements and content of R&D themes

<Eligible R&D Themes>

Eligible R&D includes that regarding business model refinement, acquisition of data (experimental or calculation results, etc.) for prototype production or demonstration of hypotheses, market surveys, or investigation of patent infringement. All of these must be conducted with the aim of filling the gap between research outcomes in research institutions and commercialization. Fundamental research and existing or newly launched venture companies are outside the scope of this program.

<Principal investigators>

Researchers and students on master's or doctoral courses who belong to any of the following institutions

Principal institution:	Hokkaido University
Collaborating institutions:	Otaru University of Commerce, Muroran Institute of Technology, Kitami Institute of Technology, Future University Hakodate, Hokkaido Information University, National Institute of Technology, Tomakomai College, and National Institute of Technology, Hakodate College
Cooperating institutions:	Asahikawa Medical University, Obihiro University of Agriculture and Veterinary Medicine, Hokkaido University of Education, Sapporo Medical University, Sapporo City University, Chitose Institute of Science and Technology, Fuji Women's University, Hokkaido University of Science, Rakuno Gakuen University, National Institute of Technology, Asahikawa College, and National Institute of Technology, Kushiro College

*If you wish to apply to the program, but are a researcher, etc., at a cooperating institution, or at a university in Hokkaido that is not listed above, then please consult the Northern Advancement Center for Science & Technology (NOASTEC).

Institutions with principal investigators whose R&D theme has been accepted are required to sign a research contract as a collaborating institution with JST.

Principal investigators of R&D themes are required to meet **all** of the following requirements.

(1) Be a researcher or student on a master's or doctoral course at a university, etc., at the time of application, and be the inventor of the technology seed constituting the core of the R&D theme or a person involved in its invention. Technology seeds may be patents, including those which are pending or not yet filed, or research outcomes that will not be filed for patent, such as software.

(2) Be willing to return to society the benefits of research outcomes obtained at university, etc., by establishing and commercializing a startup that utilizes the technology seed.

(3) Have obtained agreement from the inventor of the technology seed or organization to which it belongs (patent applicant, etc.) that it is to be utilized to create a startup with the support of the program.

(4) Be willing to understand and contribute to formation of the ecosystem that HSFC aims to create.

(5) In the case of a master's degree or doctoral student performing the role of principal investigator, submit a confirmation of agreement, signed by both parties, which indicates that the student and their institution have agreed on how to manage intellectual properties arising from the research outcome.

(6) Attend the e-learning program on entrepreneurship as instructed by HSFC before applying in order to deepen understanding of the program's objectives.

<Number of themes that will be accepted> *These numbers may vary depending on the results of screening.

#1. **Business Challenge**	**3**
#2. **DeepTech**	**10**
#3. **Implementation of research outcome and resolution of regional issues**	**12**

1. Business Challenge

R&D themes falling into this category are those with significant potential for commercialization of innovative technology seeds developed at a university and creation of startups that may have a game-changing effect on the mass market and generate very large profits. Proposed projects must meet the following requirements.

A) Have achieved a certain level of progress through engagement in an entrepreneurship support program in the past, etc., but a large quantity of funds is necessary for further acceleration towards commercialization (requiring more than five million yen).

B) Have an R&D team member from VC, etc., and a team structure that allows performance of appropriate hands-on support for commercialization, and, if the R&D team starts a business after the end of support from the GAP fund, there is the possibility of the VC, etc., investing in it.

*Consult with the person in charge of industry-academia collaboration in your university/institute before applying.

(Examples)

- Development of innovative, highly-efficient, and low cost processes to produce new materials or mass-produce useful substances
- Development of carbon-neutral, high-performance materials that can replace conventional fossil fuel-dependent materials

2. DeepTech

R&D themes falling into this category are those with potential for commercialization of innovative technology seeds developed at a university, etc., and creation of a startup that is expected to develop a new market through innovation.

(Examples)

- Development of innovative pharmaceutical materials, medical devices, and imaging technologies, etc.
- Development of highly-efficient or sustainable food
- Development of software based on quantum computing technology

3. Implementation of research outcome and resolution of regional issues

R&D themes falling into this category are those with potential for commercialization of a research outcome obtained at a university, etc., and creation of a startup that supplies a product/service contributing to the solution of problems in local communities and companies.

(Examples)

- Software and services developed to solve regional issues, such as poor mobility and snow removal

- IoT services developed to enhance the productivity of regional industries, such as agriculture, forestry, fishery, and food industries
- Content developed to provide new value-added experiences, such as sport, entertainment, and tourism

R&D themes accepted last financial year as entrepreneurship support program R&D themes (SCORE University Promotion Type "Platform for developing startups from universities, etc., in Hokkaido") are eligible only for "#1. Business Challenge."

Note that, irrespective of the number of projects planned for acceptance, the following may be applied as a result of screening.

- In accordance with JST's policy, R&D themes for which the principal investigator is a master's degree or doctoral student should be 20% or less of the total number of projects planned for acceptance.
- Applications for "#1. Business Challenge" may be accepted under the "#2. DeepTech" category.
- Applications may be accepted with a lower budget than that given on the application form.

<R&D/Business promotion costs>

#1. **Business Challenge**

Approximately 10 million yen to 30 million yen/project, 10/10 of subsidized costs

#2. **DeepTech**

5 million yen or less/project, 10/10 of subsidized costs

#3. **Implementation of research outcome and resolution of regional issues**

2.5 million yen or less/project, 10/10 of subsidized costs

<Subsidized costs>

Summary: Costs required directly for research are listed below.

a. Article costs	Costs for the purchase of new facilities (*), equipment, and consumables, etc. *As a general rule, the use of relatively large facilities and equipment with a high degree of general utility should be shared.
b. Personnel costs (including honorariums)	Personnel costs and honorariums for R&D participants and supporters (excluding the PM/PL) *Personnel costs cannot be paid for persons who receive such costs from public funding, such as university or private school grants. *As a general rule, the total personnel costs and honorariums paid as part of each R&D theme's R&D costs must be 50% or less of the total direct costs.
c. Travel expenses	Travel expenses for the PM/PL, and the R&D participants listed on the application form

d. Other expenses	Costs required to perform R&D other than those listed under a, b, and c *Outsourcing costs: service contracts that do not include R&D elements, have fixed service specifications, and outsource only work tasks. As a general rule, total outsourcing costs must be 50% or less of total direct costs. *Buyout costs: costs for delegated work other than research may be payable if certain requirements are met. Discuss these with your institution. Refer to the following URL for the requirements. https://www.jst.go.jp/osirase/2020/pdf/20200917.pdf (in Japanese)

For guidelines on costs, refer to "FY2022 Handbook for researchers participating in the University Ecosystem Promotion Type, Startup Ecosystem in Startup Cities" and the contract research administrative processing manual.

(https://www.jst.go.jp/start/su-ecosys/document.htm) (in Japanese)

<Term of R&D>

R&D should be completed by the end of February. The period during which subsidized costs may be spent depends on the regulations at your institution.

4. Application procedure and schedule

<Pre-application requirements>

(1) e-learning program

Attend the e-learning program on entrepreneurship before applying. Details are provided separately to persons who have submitted the entry sheet.

(2) Advance training

As a general rule, advance training regarding starting a startup and advice on how to prepare the application form will be provided to persons who have submitted the entry sheet and are planning to submit an application.
Details are provided separately to persons who are planning to submit an application.

<Application procedure>

(1) Documents to be submitted

- Entry sheet: Form 1 All persons who are planning to apply for the program are required to submit this form.
- Application forms:
  - Form 2 All persons applying for the program are required to submit this form.
  - Form 3 Persons applying for "#1. Business Challenge" are required to submit this form.
  - Form 4 Persons applying for either "#2. DeepTech" or "#3. Implementation of research outcome and resolution of regional issues" are required to submit this form.
- Confirmation of agreement. This is only required if the principal investigator is a student (a sample will be posted on the website at a later date).

*Submitted application forms will be used as references in the second screening (interview screening).

Application forms can be downloaded from the NOASTEC website (https://www.noastec.jp/).

(2) Application period

- **Entry sheet: must arrive by noon on June 24, 2022 (Friday)**
- **Application forms and confirmation of agreement: must arrive by noon on July 20, 2022 (Wednesday)**

(3) Application method and contact

Submit the entry sheet (Form 1) to NOASTEC via e-mail by the above-mentioned deadline. Send inquiries, if any, to the e-mail address below.

Persons who have submitted the entry sheet will notified separately by NOASTEC regarding how to submit the application forms.

Titles of e-mails should start with <GAP fund application>.

*If you do not receive a reply from NOASTEC by July 1, 2022, then contact us via e-mail or on the telephone number given below.

Address for submission and contact details for inquiries:

GAP Fund Team, Industry-Academia Collaboration Support Division
NOASTEC (Northern Advancement Center for Science & Technology)
E-mail: start-gap@noastec.jp Tel: 011-708-6536

5. Screening and post-screening procedure for accepted projects

<Perspectives for screening>

The screening committee organized by NOASTEC will invite external experts to conduct the application form screening (first screening) and interview screening (second screening), giving consideration to the following perspectives. The HSFC promotion council will make the final selection.

Screening items for all projects in the categories "#1. Business Challenge," "#2. DeepTech," and "#3. Implementation of research outcome and resolution of regional issues"

<Technical feasibility of commercialization>

Screening item	Perspective for screening
Accumulation of fundamental research outcomes	• Is there sufficient accumulation of the university/institute research outcomes that will constitute the core of the business plan?
Uniqueness and novelty of research outcome	• Does the applicant have, or have the right to utilize, competitive patents or expertise concerning the research outcome to be used in the planned business? • Does the research outcome to be used in the planned business show promise?
Possibility of achieving PoC targets	• Are the targets of the PoC, technical issues and methods of solving these issues clearly indicated? • Is there a high probability that the technical issues will be solved and the targets achieved?

Appropriateness of structure and scale of R&D	• Are the structure and period of the R&D appropriate? • Are the scale and uses of the R&D costs appropriate? • (Especially with respect to "#1. Business Challenge,") are large development costs necessary?

<Feasibility of commercialization from the perspective of business management>

Enthusiasm and motivation towards commercialization	• Is the applicant enthusiastic about starting a business or commercializing, and do they have a clear philosophy and communication skills?
Identification of demand	• Does the product/service to be developed fit well with demand in the target market?
Novelty and competitiveness of product/service	• Is the product/service to be developed better than competing products/services? • Can the product/service to be developed be differentiated from competing products/services?
Impact of commercialization	• Is the scale of the target market appropriate? • Is the business to be developed likely to have a substantial impact on the target market?
Appropriateness of business model	• Is the plan for commercialization (fundraising, market entry, etc.) sufficiently specific and appropriate? • Are there clear methods and channels for distribution of the product/service to be developed? • Is the product/service to be developed likely to have appropriate profitability as a business?

Screening items for "#1. **Business Challenge**" only

Screening item	Perspective for screening
Structure and timeline for starting a business/ commercialization	• Is there a high probability of securing management personnel or involving VC? • Is the timeline for starting a business/commercialization clear?

Screening items for "#3. **Implementation of research outcome and resolution of regional issues**"

Screening item	Perspective for screening
Ripple effects on the region and society	• Does the applicant have a sufficient, concrete idea of how the product/service to be developed will affect the region and society through problem solving and added value?

<Final screening (decision-making by participating organizations)>

The HSFC promotion council, comprising of participating organizations, will make a final selection of the accepted projects based on the results of the first and second screenings.

<Selection and notification of acceptance>

The accepted R&D themes are scheduled to be selected at the beginning of September. The results will be notified to the principal investigators via their institution.

<Granting of R&D costs>

R&D costs will be granted after conclusion of the research contract between the institution of the accepted project's principal investigator and the JST.

<Post-acceptance activities>

(1) Participation during the project period in the entrepreneurship support program, as determined by HSFC.

(2) After the accepted R&D theme has been completed, participation in Demo Day, a venue for presentations of business models for commercialization and R&D outcomes (provisionally scheduled for February 2023).

(3) For the accepted R&D themes, the names of the themes and principal investigators, etc., will be announced on the NOASTEC website after the granting of R&D costs has been finalized.

(4) When starting a business, the principal investigators of the accepted R&D themes are required to discuss how to contribute to the objective of HSFC, i.e., the creation of a startup ecosystem, with their institution.

<Timeline>

Submission of entry sheet: Noon on June 24, 2022 (Friday)
The principal investigator submits the entry sheet to NOASTEC.

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Participation in e-learning (details will be provided separately to persons who have submitted the entry sheet.)
The principal investigator attends the e-learning program before applying.
Participation in advance training (details will be provided separately to persons who have submitted the entry sheet.)
As a general rule, advance training on entrepreneurship and advice on preparation of application documents will be provided to persons who have submitted the entry sheet and are planning to apply for the program.

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Submission of application: From June 24, 2022 (Friday) to noon on July 20, 2022 (Wednesday)
The principal investigator submits the application forms to NOASTEC.

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First screening (application form screening): From late-July 2022 to early-August 2022 (period may vary slightly.)
Judges screen the submitted applications.

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Notification of result of first screening (application form screening): Mid-August 2022 (timing may vary slightly.)
The result of the first screening (application form screening) will be notified to the principal investigator via their institution.

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Second screening (interview screening): Late-August 2022 (timing may vary slightly.)
Judges screen an on-line presentation performed by the principal investigator.

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Final screening (by HSFC promotion council): Early-September 2022 (timing may vary slightly.)
Accepted R&D themes will be determined based on deliberation by the council.

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Notification of screening results: Early-September 2022 (timing may vary slightly.)
The result of screening will be notified to the principal investigator via their institution.

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Participation in the entrepreneurship support program: From September 2022 to March 2023 (period may vary slightly.)
The principal investigators or project representatives of the accepted projects are required to participate in a mentoring and training program in order to learn entrepreneurial knowledge, refine their business models, and get advice on customer interviews.

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Participation in Demo Day: Late-February 2023 (timing may vary slightly.)
The outcomes of accepted projects' activities for commercialization will be presented to investors and other stakeholders at this event, aiming to obtain further research funding.