

NEDO Supply Chain Data Challenge

Guidelines for application

Application period:

- From 18th March, 2022 to 17th May, 2022, noon (JST)

Application submission*:

- NEDO Supply Chain Data Challenge Project Office (Email: info@nedo-supplychain-data-challenge.jp)

**Please note that the application can only be submitted by E-mail.*

Contact for any of inquiries:

- NEDO Supply Chain Data Challenge Project Office** (Email: info@nedo-supplychain-data-challenge.jp)

***Office is available on Mon-Fri 9:15-17:15 (except Japan's National Holidays)*

March, 2022

NEDO Supply Chain Data Challenge Project Office

I. Project Overview

1. Objective

Covid-19 has had an enormous impact on the global supply chain (SC) and Japanese manufacturers have been forced to drastically reduce production. SC now became a massive network that connects various companies, and a single defect in one location can cause widespread damage to various stakeholders. For the sustainable use, SC must be monitored continuously with various information and aspects. The up-to-date information which will be provided by SC users and supporting information which will be obtained from various affiliates and specialists are essential.

However, it is challenging for individual companies to monitor global SC continuously and exhaustively since the SC error is caused various events and these include earthquake, flood and epidemic and become extremely diverse. Hence, advanced analysis and utilization of these information shall be deepened to improve the robustness of SC management and finally it leads to further enhance industrial resilience.

The Ministry of Economy, Trade and Industry (METI) and the New Energy and Industrial Technology Development Organization (NEDO) will be widely inviting ideas and systems that contribute to the development of SC monitoring and management by combining various types of information, including satellite images and other mobile data, and will present awards for outstanding ideas.

2. Project outline

- This project consists of Idea Contest and System Development. Idea Contest for proposals of technologies and solutions that will greatly expand the potential for satellite data applications in solving social issues related to the supply chain, and the System Development for test implementations.
- Particularly, in System Development, two themes of SC management which are highly significant in the technological and industrial aspects and are likely to lead to practical applications are nominated.
- For the first-round winners in the System Development Division, System Development Platform at "Tellus" (computing resources), its related data including satellite data and technical development support will be provided.
- Through expert mentoring, participants can obtain advises regarding Information analysis technology for SCM support and design of business value.

3. Theme

This project consists of Idea Contest and System Development.
The themes are as follows.(Three themes in total)

■ **Idea Contest** :

Theme : Ideas for technologies and solutions how the use of satellite data and other resources enable to solve problems in SC management

■ **Systeme Development** :

Theme1 : SC impact estimation and visualization in case of 'Congestion of container logistics at Ports'

Theme2 : SC impact estimation and visualization in case of 'disasters such as large-scale windstorms and floods'

**Applicants may apply to the two themes though, only one proposal in each theme is allowed.*

[Idea Contest - details]

Theme : Ideas for technologies and solutions how the use of satellite data and other resources enable to solve problems in SC management

[Background]

Space development has been a limited government-led player, but in recent years the base of the space industry has been expanding to include satellite development and data services by small and medium-sized companies and start-ups.

In Japan, satellite data has not been generally accessible, and industrial use of satellite data has been limited due to the high level of expertise and expensive processing equipment and software required to process satellite data.

To solve this problem, an open and free platform called Tellus, which enables analysis in a cloud environment, has been developed in Japan with the aim of creating a new business market using satellite data.

(<https://www.tellusxdp.com/ja/>)

Tellus provides a full range of functions to facilitate new business creation by combining satellite and terrestrial data, and is expected to further exploit satellite data.

[Objectives]

We are seeking proposals for ideas that will enable us to recognize, solve, and prevent problems that have a major impact on the supply chain, such as infectious diseases such as the new coronavirus and logistics stagnation caused by disasters.

[Judgement]

In the first round, we will focus on whether the service is "a service that utilizes satellite d

ata based on a new and unprecedented idea" and "can be expected to have a ripple effect on society as a whole.

After passing the first screening, applicants will consult with a mentor who is well versed in the space field, and work on brushing up the feasibility of their ideas for the second screening to see what kind of satellite data can be used to realize their ideas.

[System Development - details]

Theme1 : SC impact estimation and visualization in case of ‘Congestion of container logistics at Ports’

[Background]

In maritime logistics, which supports the global supply chain, the spread of the new coronavirus infection and other factors triggered major container logistics congestion at a number of important ports, which had a significant impact on the supply chain.

[Objectives]

- to detect traffic congestion at major ports as quickly and accurately as possible,
- to estimate the impact of traffic congestion on the logistics network and supply chain
- to provide alternative routes so that users (shippers and others in the supply chain) can make decisions and take action in a timely manner.

[Prerequisites]

- Data provided: Satellite imagery of ports, location information on container ship operations, location information on movements of people and vehicles in and out of ports, statistical data on goods movement in and out of ports, etc.
- Ports covered: Los Angeles, Tokyo, Busan, Singapore

[Expectations for Applicants]

We look forward to prototyping information services and decision support systems that satisfy the above user needs at a higher level, as well as developing methods to realize such services.

[Judgement]

Theme (1) consists of the following three questions, which are designed to build up the technology step by step and add value to the business.

Q1: We expect you to propose a method that can estimate the operational status of ports and harbors more accurately and quickly. Please take into account the cost of data measurement, collection and estimation, and present the cost of obtaining other data and the advantages of this method compared to existing technologies. Also, please provide speci

tics on estimation reliability and speed, including evidence.

Q2: Ports and harbors are hubs connecting different modes of transportation (ships and trucks), and we expect you to propose a method to measure and evaluate their connectivity and smoothness more accurately and efficiently.

Q3: Please develop a prototype of an information visualization system that supports the study of transportation method changes and supply chain recombination strategies, based on the needs of shippers and other users. We expect the system to be easy to understand from the user's perspective and to have functions that enable visualization and centralized understanding of information without excesses or deficiencies.

In addition, based on the above, please indicate under what circumstances it can provide business value.

Theme2 : SC impact estimation and visualization in case of 'disasters such as large-scale windstorms and floods'

【Background】

Global climate change and other factors threaten to increase the frequency of large-scale windstorms.

【Objectives】

- To quickly and accurately assess the impact of large-scale wind and flood damage on large-scale business facilities such as factories, social infrastructure such as roads, and regional economic activities;
- to estimate the spread of the impact through logistics networks, supply chains, and business relationships;
- to assess the impact of large-scale wind and flood damage on the local economy as damage and risk increase. To achieve centralized visualization of information based on user needs so that users (companies doing business with the area, supply chain personnel, etc.) can consider and make decisions on how to respond in a timely manner.

【Prerequisites】

Data provided: satellite imagery, location information on the movement of people and vehicles, and data on business-to-business transactions, with a focus on the Kanto and southern Tohoku regions where Typhoons No. 15 and No. 19 in 2019 caused extensive damage.

【 Expectations for Applicants 】

We expect prototyping of information services and decision support systems that satisfy the above-mentioned user needs at a higher level, as well as the development of methods to realize such systems.

[Judgement]

Theme (2) consists of the following three questions, which are designed to build up the technology step by step and add value to the business.

Q1: Please demonstrate as objectively as possible that direct damage (e.g., reduced factory operating rates, shutdown of commercial facilities, etc., residential damage and evacuees) caused by large-scale wind and flood damage (typhoons, flood damage) can be assessed as accurately and quickly as possible.

Q2: In addition to direct damage, we expect the development of technology to estimate and visualize the spread of direct damage to other companies, regions, etc. via the effects of transactions between companies, changes in people's commuting and purchasing behavior, evacuation from homes, etc.

Q3: We expect you to develop prototypes of systems and services that support the visualization of information on the severity and spread of direct and indirect damage beyond the affected area, as well as studies on supply chain maintenance and recombination, based on the various needs of a wide variety of users.

In addition, based on the above, please indicate in what situations you can provide business value.

4. Dev PLATFORM & Data (for System Development)

For this project, the following development environment and data will be provided to applicants who pass the first round of screening in the system development category. In addition to the data provided by the secretariat, additional data may be provided upon request from applicants during the system development period, if deemed necessary by the secretariat.

Applicants themselves may also bring in and use the data they require in the project (in such cases, the nature and content of the data brought in may be confirmed in advance by the secretariat). (In such cases, the nature and content of the data brought in will be checked by the secretariat in advance.

Development Platform	<ul style="list-style-type: none"> • Sakura Cloud GPU V100 SSD100GB/SSD2TB • Sakura Cloud 4 Core 8GBSSD100GB • Satellite Data Master3+QGIS <p>※Dev. Environment of Satellite Data Master3 is as follows. CPU Virtual 8Core Memory 16GB SSD800GB</p>
Data	<p>【Theme 1】</p> <ul style="list-style-type: none"> • ASNARO-1 • Pleiades • ALOS-2 • ASNARO-2 • GRUS • AIS Data • Mobile phone location data • BtoB transaction information database • Various statistical data etc, <p>【Theme 2】</p> <p><Satellite data></p> <ul style="list-style-type: none"> • Sentinel-1 • Landsat-8 • MODIS • SPOT • GRUS etc, <p><Other data></p> <ul style="list-style-type: none"> • SNS data related to damage information at the time of natural disasters • BtoB transaction information database • Mobile phone location data • Aerial photography and drones <ul style="list-style-type: none"> • Oblique aerial photos and videos, etc.

5. Expert Mentoring

For those the first-round winners, an expert mentoring opportunity will be provided.

Type	Mentoring (scheduled)	Style
Private Mentoring (on demand)	The secretariat will match the mentor with the mentor according to the wishes of both the adopter and the mentor.	On-line
Work shop style (Regular basis)	<p>Joint mentoring in the form of workshops will be conducted.</p> <ul style="list-style-type: none"> • Opportunities for interaction among participants • Networking with user companies, investors, etc. <p>Presentation (pitch) guidance that also serves as a rehearsal for the second round of judging</p>	
Other (as needed)	<p>Opportunities will be provided for consultation with NEDO and relevant ministries and agencies on matters related to the content of proposals.</p> <p>We also plan to provide opportunities for companies and others that are expected to use the ideas and systems in this project as users to briefly exchange opinions and interact with each other.</p>	

Mentors will be selected not only from researchers in remote sensing technology and logistics/supply chain, but also from industry, who will be the users of the ideas proposed in this project, and will provide advice on their needs, challenges, and concerns as users. Financial institutions, investors, and consultants will also be invited to provide advice on commercialization, marketing, financing methods, and presentations in the pitch contest.

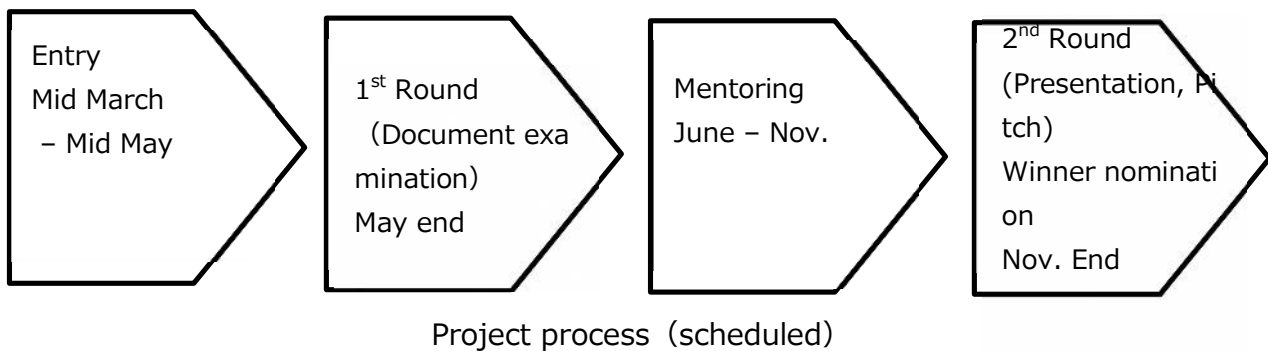
Please note that there is no guarantee that the mentoring experts will continue to provide support for business ideas after the completion of this project.

II. ENTRY & SCHEDULE

1. Process

This project is open for corporations, individuals, and groups, regardless of whether the company types are large companies, start-ups, or listed/unlisted companies.

Award winners will be nominated through 2nd round competition for Idea Contest and System Development. In the first round, proposals are examined (Document examination only). In the second round, the winners will be selected via participants' presentation (pitch). Details will be announced later.



2. Qualification

This project is open for corporations, individuals, and groups, regardless of whether the company types are large companies, start-ups, or listed/unlisted companies.

Note

- Ideas that are obviously unrealistic and have already been existing will not be examined through the process.
- Startup companies, etc. are eligible to apply even if they have received funding from institutional investors, etc.
- Through the process, the application examination and winner nomination will be cancelled in case the management office found any of fraudulent and/or inappropriate action.

3. Entry

Entry starts from Fri, 18th March and ends on Tue, 17th May, 2022, noon (JST)

4. Opening event

Considering the impact of the new coronavirus infection, we will be converting the applica

tion briefing to a video presentation.

Distribution date and time: March 18, 2022 (Friday)

How to view the video: Please visit the dedicated website.

NEDO Supply Chain Data Challenge website

<https://www.nedo-supplychain-data-challenge.jp>

5. Application form

- 1 Please submit the following set of application documents. Applications using forms other than those specified will not be accepted.
- 2 You may choose either Form 1 or Form 2.

#	書類名
1	(Form 1) Application Form_For corporations and consortiums
2	(Form 2) Application Form_for Individuals and Groups
3	(Form 3) Proposal template

Please download the application documents from the following website.

■ NEDO Supply Chain Data Challenge website

<https://www.nedo-supplychain-data-challenge.jp>

- 3 Application packages must be submitted via e-mail.

The application documents should be submitted in a single zip file and the subject line of the e-mail should read "NEDO Supply Chain Data Challenge" application form.

Submission after the deadline and changes or replacements of documents after the application is submitted will not be accepted.

Submitted to

NEDO Supply Chain Data Challenge Management Office

Mail : info@nedo-supplychain-data-challenge.jp

Submitted application documents will be used only for the purpose of screening for the adoption of this project and for the use of contents related to public relations activities. Although due consideration will be given to maintaining confidentiality, in the event that the application is adopted, it will be subject to the "Act on Access to Information Held by Administrative Organs" (Act on Access to Information Held by Administrative Organs, May 14, 1999). Please note that information will be subject to public disclosure, except for information that is undisclosed (personal information, information that is detrimental

to the legitimate interests of the corporation, etc.), in accordance with the Japan Securities Depository Center (JSDC) (No. 42).

After the deadline, we may contact you to confirm the contents of your application.

6. Inquiries

Questions and answers about your application will only be conducted via e-mail. Please note that we will not be able to respond to any inquiries that do not comply with the following methods.

<Contact>

Questions should be submitted by e-mail to the following office.

When contacting the NEDO Supply Chain Data Challenge, be sure to write "Question (NEDO Supply Chain Data Challenge)" in the subject line of the e-mail and

Please include the name of your organization, the name of the person in charge, and the e-mail address in the body of the text.

NEDO Supply Chain Data Challenge Management Office

Mail : info@nedo-supplychain-data-challenge.jp

Until : 13th May, Fri noon (JST)

<Answers>

In principle, the secretariat will respond to your questions by e-mail within three business days. FAQ will be published on the website (<https://www.nedo-supplychain-data-challenge.jp>) where application materials are posted at a certain point in time.

III. JUDGING

1. Judgement

Based on the application documents, a review committee consisting of experts in the relevant area will be established to conduct the review. The committee may request the applicant to submit additional materials as well as conduct hearings, etc., as necessary.

2. Criteria

The overall evaluation will be based on the following screening items.

- The same items will be applied to the Idea Division, System Development Division, First Round, and Second Round judging.
- The same items will be applied to the Idea Division, the System Development Division, the First Round Judging, and the Second Round Judging.
- The judges who have a conflict of interest with any of the applicants will be excluded from the judging of that applicant.
- When preparing proposals, please include a description of the criteria for judging the following items. Projects that do not meet the screening criteria will not be adopted regardless of the evaluation of other items.

<items>

Criteria	Contents
Innovation	<p>The content must be based on new ideas that have never been seen before, and must create new services that utilize the material of space.</p> <ul style="list-style-type: none"> •Creation of new markets •Contribution to the value-added growth of existing businesses, etc. •Appropriate design of business logic model and KPIs <p>Possibility of collaboration with necessary stakeholders for the creation of results, etc.</p>
Possibility (for System Development)	<p>The technology underlying the development must be at a feasible level to realize the proposed system.</p>
Feasibility	<p>A multifaceted study should be conducted from various aspects to determine whether the developed system and the projects that utilize it are likely to be implemented as planned.</p> <ul style="list-style-type: none"> •Sales and revenue growth based on specific business plans •Sustainability of competitive advantage •Compliance with relevant laws and regulations •Required management resources and their sufficiency (people, money, and goods) •Expected losses and risks

	Time to service
Social development and potential	The commercialization of the project is expected to have a ripple effect on society as a whole, such as by expanding overseas or to other regions.

3. Result and notification

The results of the first and second rounds will be announced on the NEDO website and a dedicated website and notified by e-mail for all applicants.

Please note that NEDO will not answer any inquiries regarding the results of the screening process.

- Announcement/notification date (scheduled)

First round: Early June 2022

Second round: Early December 2022

IV. REWARD

1. Reward details

Challenge	Theme	Reward
Idea Contest	Ideas for technologies and solutions how the use of satellite data and other resources enable to solve problems in SC management	1st prize: 1 million JPY 2nd prize: 0.5 million JPY 3rd prize: 0.3 million JPY
System Development	1 SC impact estimation and visualization in case of 'Congestion of container logistics at Ports'	1st prize: 10million JPY 2nd prize: 5 million JPY 3rd prize: 3 million JPY
	2 SC impact estimation and visualization in case of 'disasters such as large-scale windstorms and floods'	1st prize: 10million JPY 2nd prize: 5 million JPY 3rd prize: 3 million JPY

Please note that the results of the screening process may result in the application being deemed ineligible for any of the above.

2. Payment period

The prize will be paid in a lump-sum settlement after the winners have been selected.

3. Payment method

The prize will be paid in a lump sum by the secretariat to the sole proprietor and the representative organization of the consortium.

In the case of a consortium, payment to the participating organizations will be made by the representative organization.

The necessary procedures for payment will be notified to the award winners separately.

V. Others

1 The cost of application, first and second round screening, mentoring, etc. is to be borne by the applicant. Please also provide your own online environment for participating in these activities.

2 Copyrights and other intellectual property rights related to the submitted proposals belong to the applicants. Proposals must not infringe on the copyrights or other intellectual property rights of third parties. In the unlikely event that the Secretariat determines that a submitted proposal infringes or is likely to infringe on the rights of a third party (including cases in which infringement occurs after the proposal has been submitted), the award may be revoked even after the announcement of the award.

3 Please be advised that the Secretariat may publish or use the information provided in the application documents and the state of the second round of judging in magazines, books, websites, e-mail newsletters, and other media for PR purposes. Accordingly, some of the information provided by applicants may be summarized, translated, or otherwise changed.

4 Regardless of whether or not the second round contestants receive an award, we may ask them about the costs incurred in the development of their products after passing the application and first round screening.

5 Personal information obtained by the secretariat through the documents submitted for application to the project will not be used for any purpose other than those listed below. (except in cases where the provision of such information is required by laws and regulations).

- To screen and select applicants for the Project and to manage the Project.
- For administrative contact and sending of materials after selection.
- To compile and analyze application information statistically and create statistical data processed in a form that does not identify or specify the applicant.

6 The submitted application documents will be processed in accordance with the "Act on

Access to Information Held by Administrative Organs" (Act No. 4 of May 14, 1999). (No. 2), except for information that is not disclosed (personal information and information that may harm the rights, competitive position, or other legitimate interests of a corporation or individual, etc.). In the event of a request for disclosure, the scope of information to be withheld shall be determined after coordination with NEDO.

7 The award decision will be revoked in any of the following cases

- The awardee has violated any laws or regulations.
- The prize winner has committed fraud in connection with the grant of the prize money, etc.
- If the recipient has lied about his or her eligibility for the award in this application guideline.

In the event that the award decision is rescinded and the prize money has already been paid to the awardee, the awardee will be requested to return the prize money.