



The second phase of Cross-ministerial Strategic Innovation Promotion Program(SIP)
Automated Driving for Universal Services
Research for Design and Development of Automated Driving/Drive Assistance
Architectures, Entrusted Business for Development of a Portal Site to Promote the
Exchange of Geographic Data “Verification Experiments at the Tokyo Waterfront
Area” and “Research to Organize and Develop Geographic Data and Urban Traffic
Condition Data for Linkage between Mobility Service and Logistics Service”
Report (Summary Version)

NTT DATA Corporation

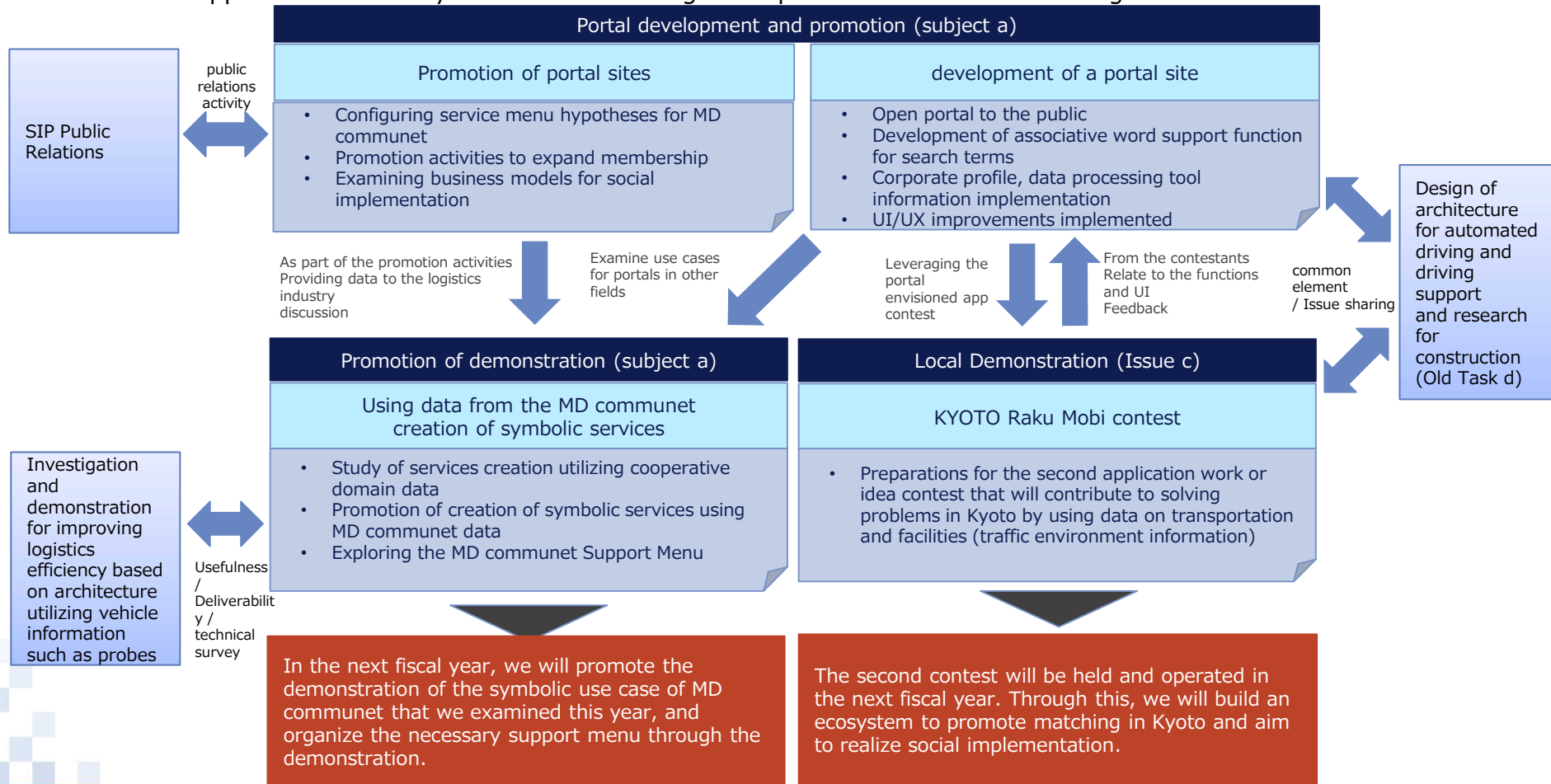
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0. Introduction: FY2021 project overview

Relationship diagram of initiatives

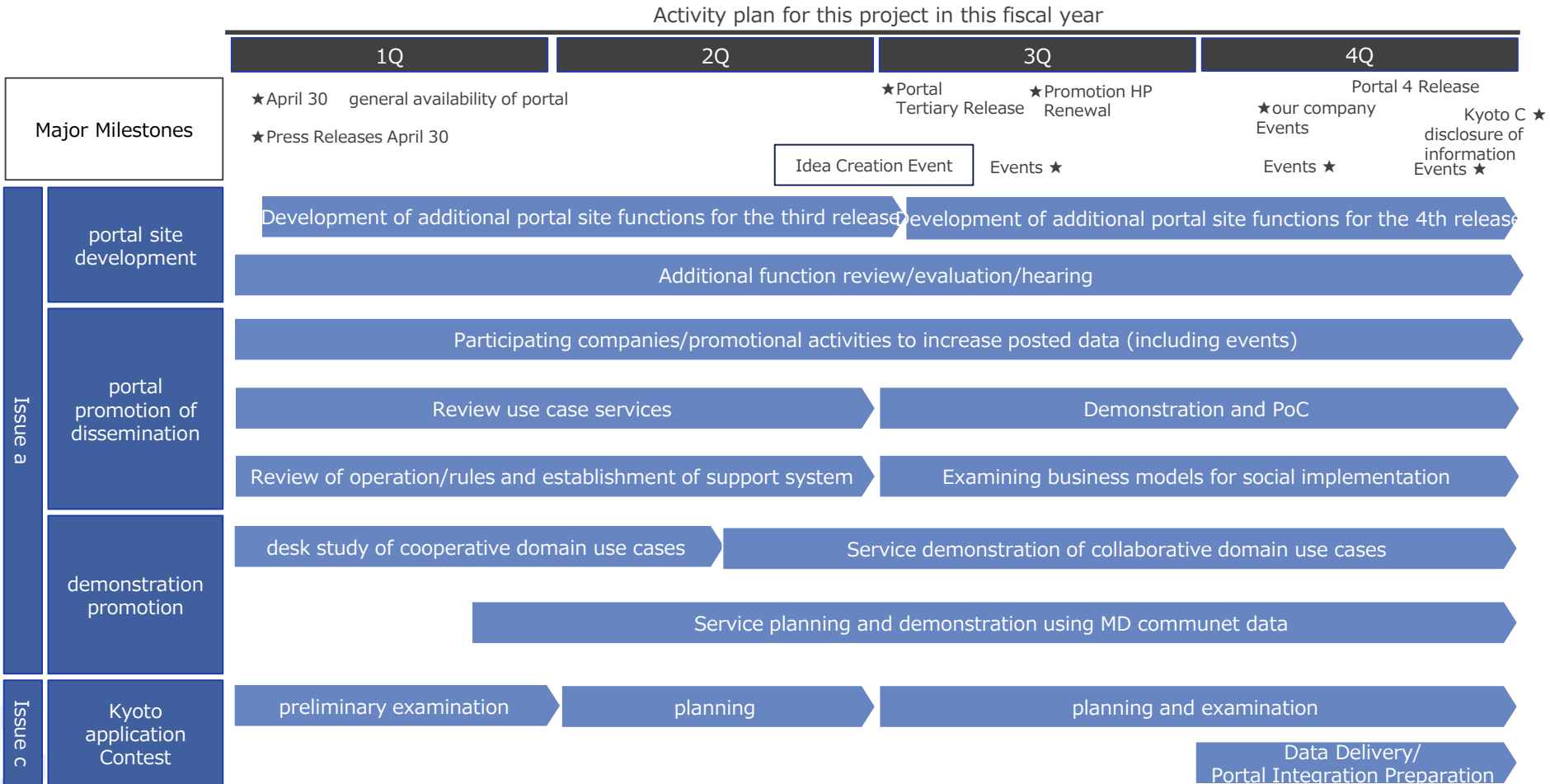
- In FY2021, we conducted the following initiatives:
 - Promotion of dissemination and enhancement of portal functionality with an emphasis on the perspective of the users of MD communit data
 - Enhancement portal functions
 - Promotion of service creation that is unique and symbolic to MD communit and demonstration projects that also develop the processes necessary for service creation
 - Held an app contest to widely disseminate to the general public that services are being created that solve social issues



0. Introduction: FY2021 project overview

Overall schedule

- In FY2021, we increased the number of users (particularly data users) with the general release at the start of the year. We also implemented various initiatives based on creating services focused on social implementation



1. Development and operation of a portal site designed to promote the distribution of geographic data and dynamic traffic information

1. Development and operation of a portal site designed to promote the distribution of geographic data and dynamic traffic information: Implementation policy for this fiscal year and beyond

- In order to accelerate further data utilization with a view to social implementation, we focused our efforts on the following three main points: (1); Expanding service providers and users among MD communit members; (2) Creating case studies through support, including demonstration projects and technical support; (3) Providing necessary content, functions, and tools; and

Items to be implemented and verified in this fiscal year to establish the MD communit service

Expansion of members and users (Promotion of Dissemination)



- **Cooperation with SIP café** strengthening public relations by Creating Webinars and Columns etc.
- **Expansion of natural inflow** by utilizing **events and advertisements**
- **Ongoing approach to companies involved in the automobile industry and government agencies**

Content/Features/Tools (Portal development)



レコメンテーション



- **Improve users understanding and mobility** by **improving UI UX** for portals
- **Data operation and data processing environment**
- Improve **searchability by the service point of origin and issues**

case creation (Promotion of Demonstration)

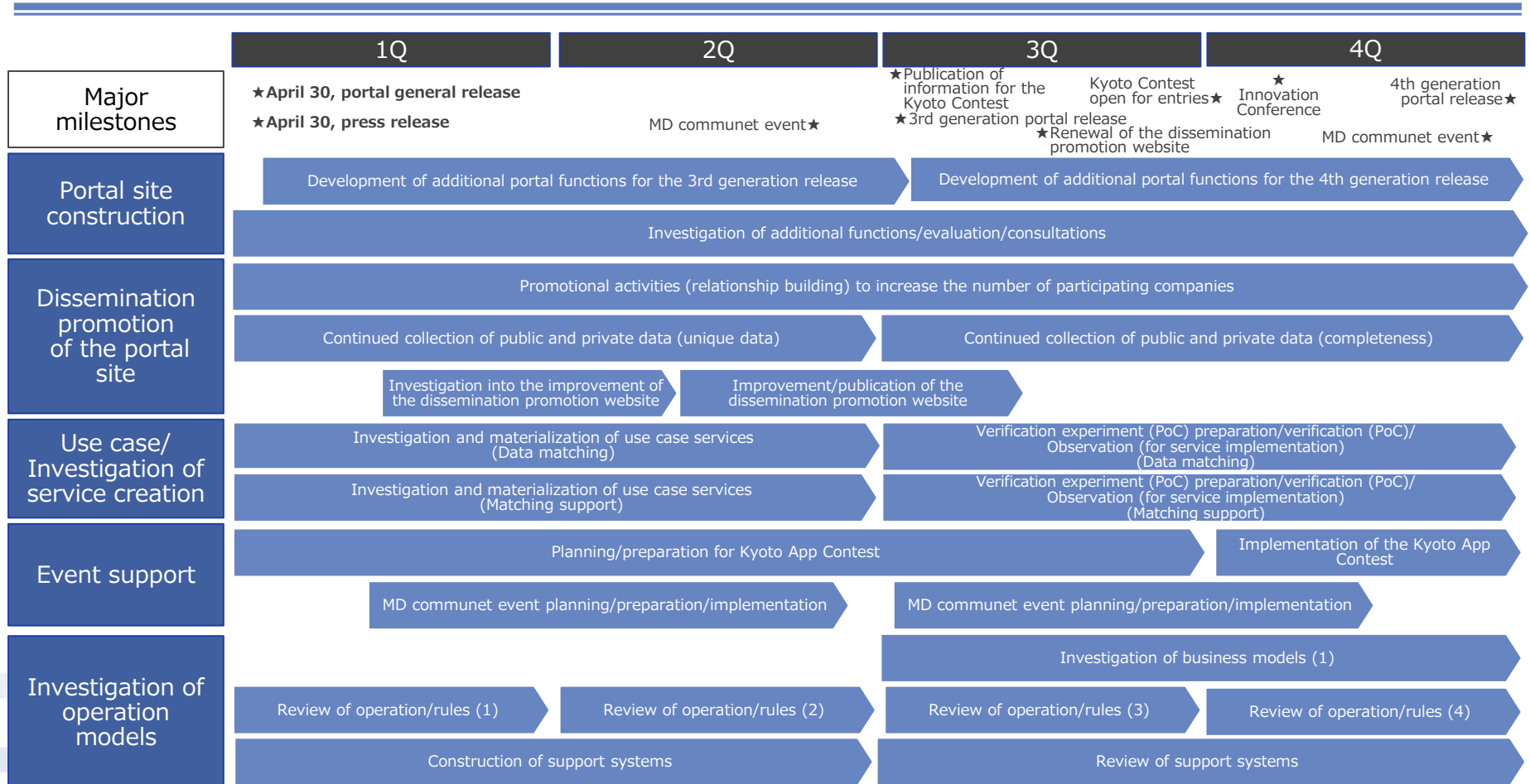


- **Creating use cases** towards the future and **Demonstration experiments to resolve issues in logistics industry**
- **Creation and publication of demonstration PoC cases involving local governments**
- **Publishing content and tools that become hint of the data utilization**

1. Development and operation of a portal site designed to promote the distribution of geographic data and dynamic traffic information: Dissemination promotion plan for FY2021

- In our initiatives, we increased the number of case studies by realizing services created from MD communit, gathering the necessary players and data, and conducting verification experiments focused on the implementation of services. We set milestones as stepping stones towards the social implementation of MD communit.

Dissemination promotion plan for FY2021

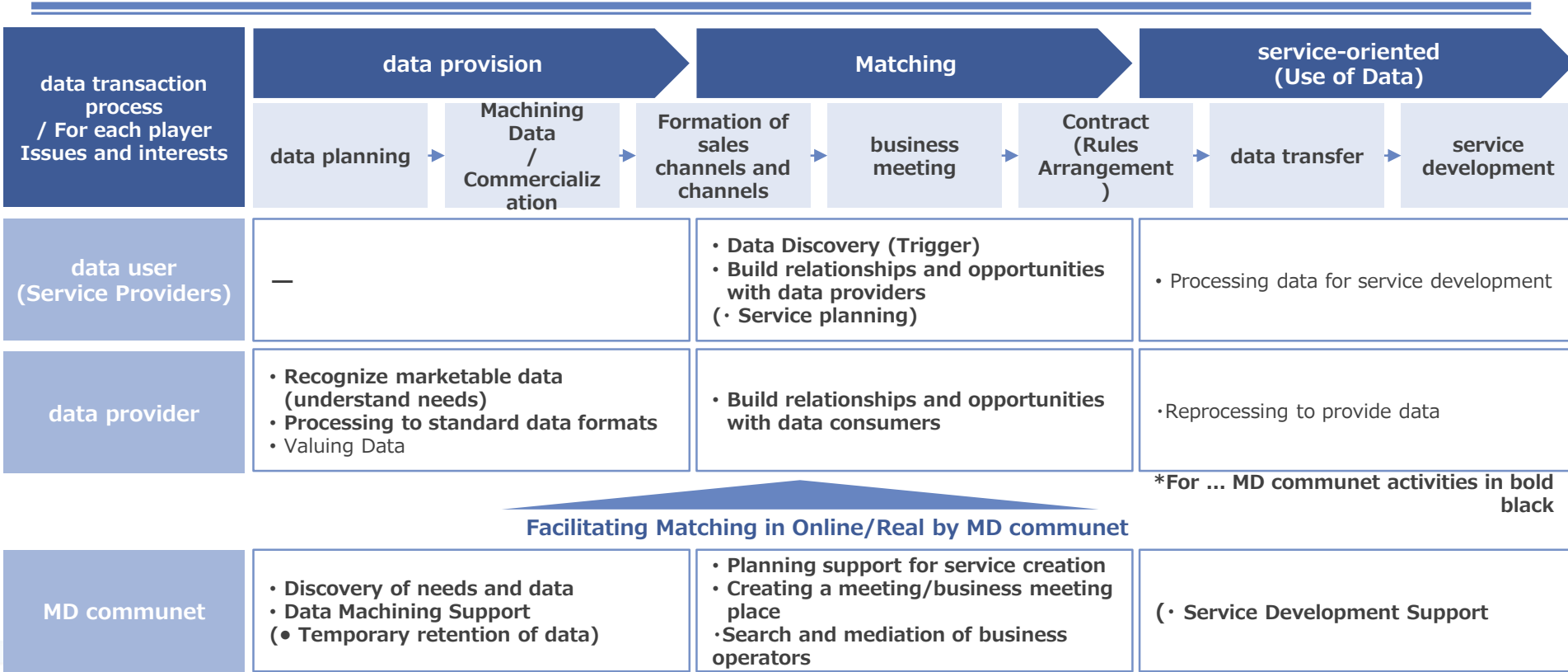


1.1 Dissemination promotion activities for the sustainable operation of the portal site

1.1 Dissemination promotion activities for sustainable operation of the portal site overall policy

- Traffic environment information toward the creation of data-driven services and businesses by means of online and real actions to address issues and concerns of data users and providers in the data transaction process, leading to the realization of services. Promotion of the creation of systems

Issues and concerns of each player in the data trading process



*For ... MD communit activities in bold black

Creation of services and businesses through matching and smooth data transactions to support them, verification and improvement of systems and functions necessary for portals, establishment of concrete systems and mechanisms for social implementation, and aiming to be

1.1 Dissemination promotion activities for sustainable operation of the portal site

Items to be implemented and verified on MD communit (Implementation Policy)

- It is necessary to formulate a support menu required for commercialization while keeping in mind the post-general-release operation of the portal site, continued acquisition of members, accumulation of key data, matching between companies, and service creation.
- We identified the policy and task for each activity and worked towards commercializing the portal site.

Target for activities	Activity policy		Task
Users	Initiatives to expand the amount of catalog data	<ul style="list-style-type: none"> • Increase unique MD communit data (public, private) 	<ul style="list-style-type: none"> • Coordination of data listing with potential member companies • Create use cases • List additional catalogues
	Acquisition of member companies	<ul style="list-style-type: none"> • List companies that are necessary to create new services • Redefine companies that possess data unique to MD communit 	<ul style="list-style-type: none"> • Redefinition of potential member companies • Visit potential member companies, consensus-building regarding use, procedures
Investigation of operation models	Review of operation/rules	<ul style="list-style-type: none"> • While summarizing the needs of member companies, review and improve operation and rules 	<ul style="list-style-type: none"> • Review content-based response to inquires • Incorporate the outcomes of investigations
	Formulation of the support menu	<ul style="list-style-type: none"> • Formulate the service menu provided by MD communit 	<ul style="list-style-type: none"> • Establish support system • Verification of the support menu
Use cases	Creation of use cases by data matching	<ul style="list-style-type: none"> • Create use cases that make data users utilize listed/unlisted data on MD communit 	<ul style="list-style-type: none"> • Investigate use cases • Approach data users • Materialization of use cases
	Creation of use cases using matching support	<ul style="list-style-type: none"> • Create use cases that can lead local governments and companies to solve their issues 	<ul style="list-style-type: none"> • Consultation about issues • Investigation and materialization of use case services
Event support	Dissemination promotion event	<ul style="list-style-type: none"> • Planning and implementation of an event dedicated to matching and service creation 	<ul style="list-style-type: none"> • Event planning/preparation/implementation • Attract companies to participate
	Kyoto Raku Mobi Contest	<ul style="list-style-type: none"> • Plan a contest in conjunction with MD communit 	<ul style="list-style-type: none"> • Contest planning • Investigation regarding data provision

1.1 Dissemination promotion activities for sustainable operation of the portal site

Setting of service hypotheses to be provided by MD communit

- After MD communit's general release, we received registration applications and inquiries from several companies, and we conducted consultations regarding expectations towards MD communit (reason for membership registration) and data utilization issues

Identification of needs for MD communit

Issues faced by users (mainly data providers)

- I don't know what needs (area, industry, buyer) and value (including monetary value) of my data
- Regarding technical aspects, I don't have the fundamental technology to provide data. I want to know how data is being provided globally (I want to know standard methods, and I want to align with these methods)
- Without regard to whether data is listed on MD communit or not, I want to prevent being put at a disadvantage (data I charged for until now, or data that I was planning to charge for, becoming free) by making my data openly available.
- I want to know what other companies or competitors are doing

What users are looking for in MD communit/What users want to do on MD communit

- Marketing in the mobility market, research into the trends of companies
- Searching and mediation when there is data that I want or a company that I want to connect with
- I want to think about plans for services together; I want you to solve our issues
- I want you to process our data into a format where it can be sold As an extension of this, I want you to list the data on MD communit and sell it



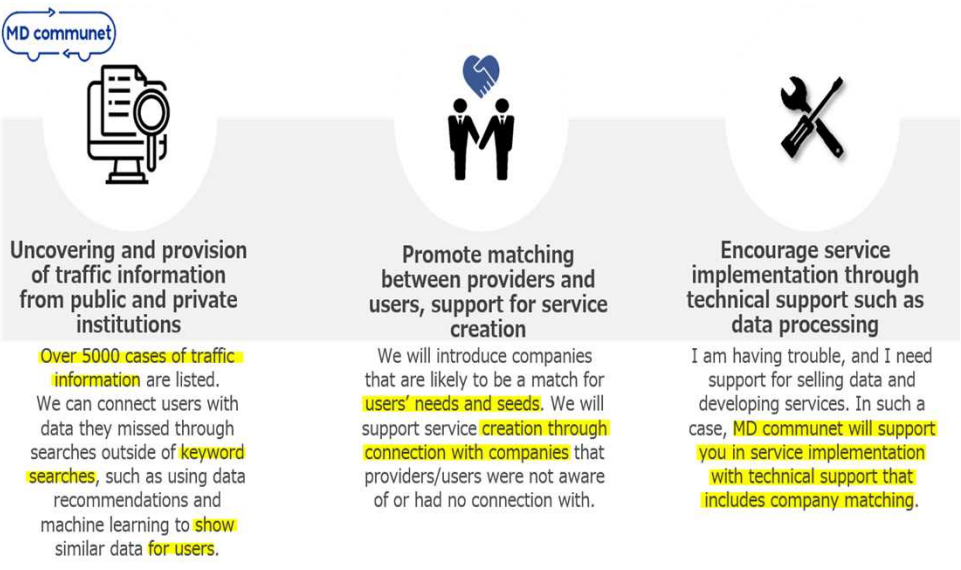
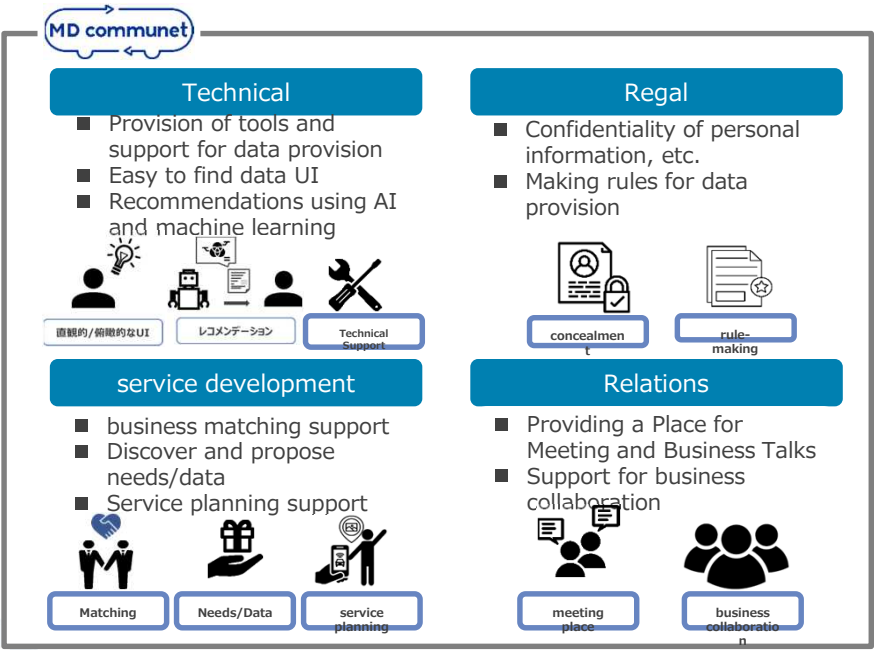
Based on the outcomes of past investigations and the opinions and feedback from our users, we need to investigate a service menu focused on commercialization

1.1 Dissemination promotion activities for sustainable operation of the portal site

Setting of service hypotheses to be provided by MD communit

- Needs were identified based on the results of interviews, and a service menu for members was considered based on the issues faced by member companies and inquiry companies and the requests for the MD communit.
- We created a service menu plan, defined it as a service/value provided by MD communit, and verified it through demonstration experiments and various promotional activities.

Proposed MD communit service menu and service value

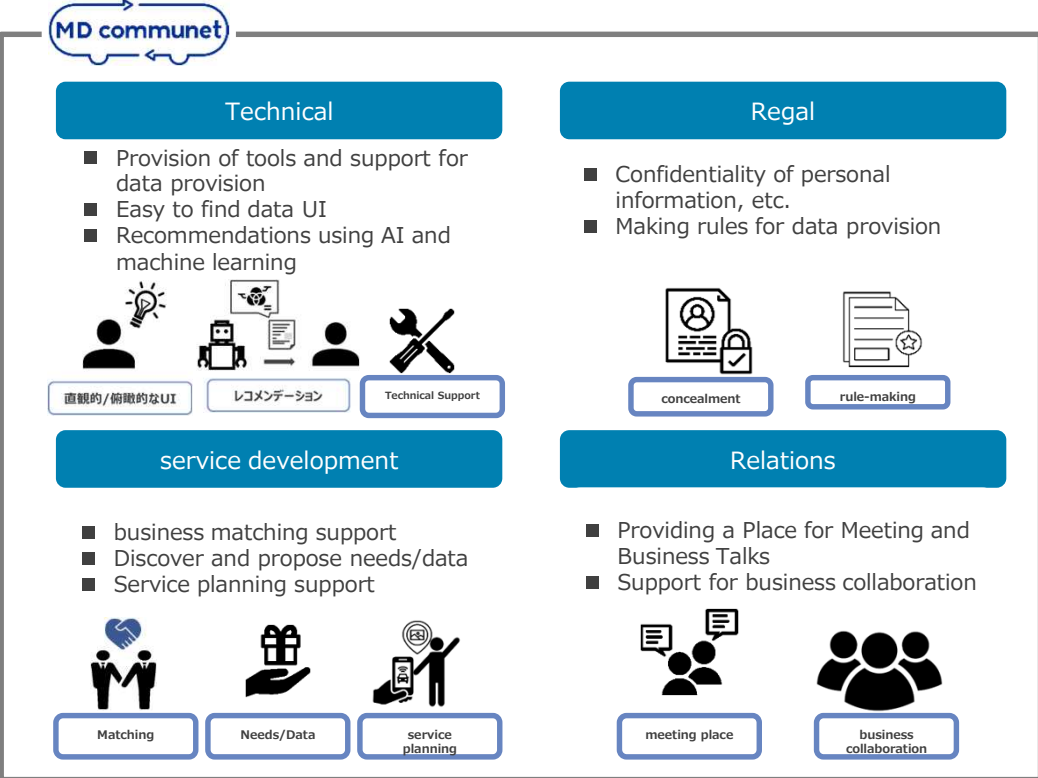


1.1 Dissemination promotion activities for sustainable operation of the portal site Matters to be implemented and verified by MD communit (Overview)

- In order to examine the contents of the service that MD communit continuously provides, we conducted a trial in each effort such as business matching, event, demonstration experiment, KYOTO Raku Mobi contest, etc., and examined the contents of the service at the time of social implementation while ascertaining the necessary functions and services ((1) below applies).

Items to be implemented and verified in this fiscal year to establish the MD communit service

Proposed services provided by MD communit



Implementation and verification in the MD communit

- ① Building relationships with key players (public and private)**

To increase the appeal of the MD communit, it is necessary to create symbolic examples. Focus on creating services with key players to build the strength of MD communit
- ② Support for problem solving (government and local governments)**

Through the KYOTO Raku Mobi Contest, we will create a place where local governments can voluntarily solve their problems by using data and provide support for data provision.
- ③ Support for resolving issues (private companies)**

Support the creation of services that are connected to other means of transportation and associated services by posting examples of service creation using transportation-related information, including issue d
- ④ Development of necessary processes from the viewpoint of data users**

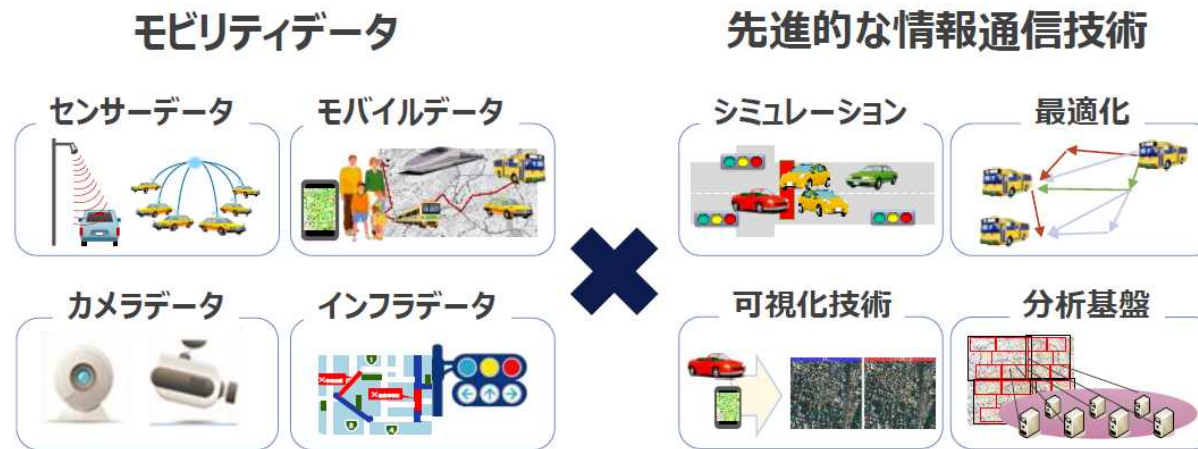
Increase the probability and efficiency of service creation by creating a set of service examples and guidelines (service creation process, etc.)

1.1 Dissemination promotion activities for sustainable operation of the portal site

Items to be implemented and verified on MD communit (1) (Relationship building with public and private key players)

- We consider the member registration of private companies that possess a wide variety of data critical in improving the appeal of MD communit. We encouraged companies who mostly use data related to mobility and are developing or using advanced information communications technology to register on MD communit.

Definition of key players



Make MD communit into a meeting place that continues to create innovative services by combining data in the transportation and mobility fields, technology for generating this data, data processing and analysis technology, and services.

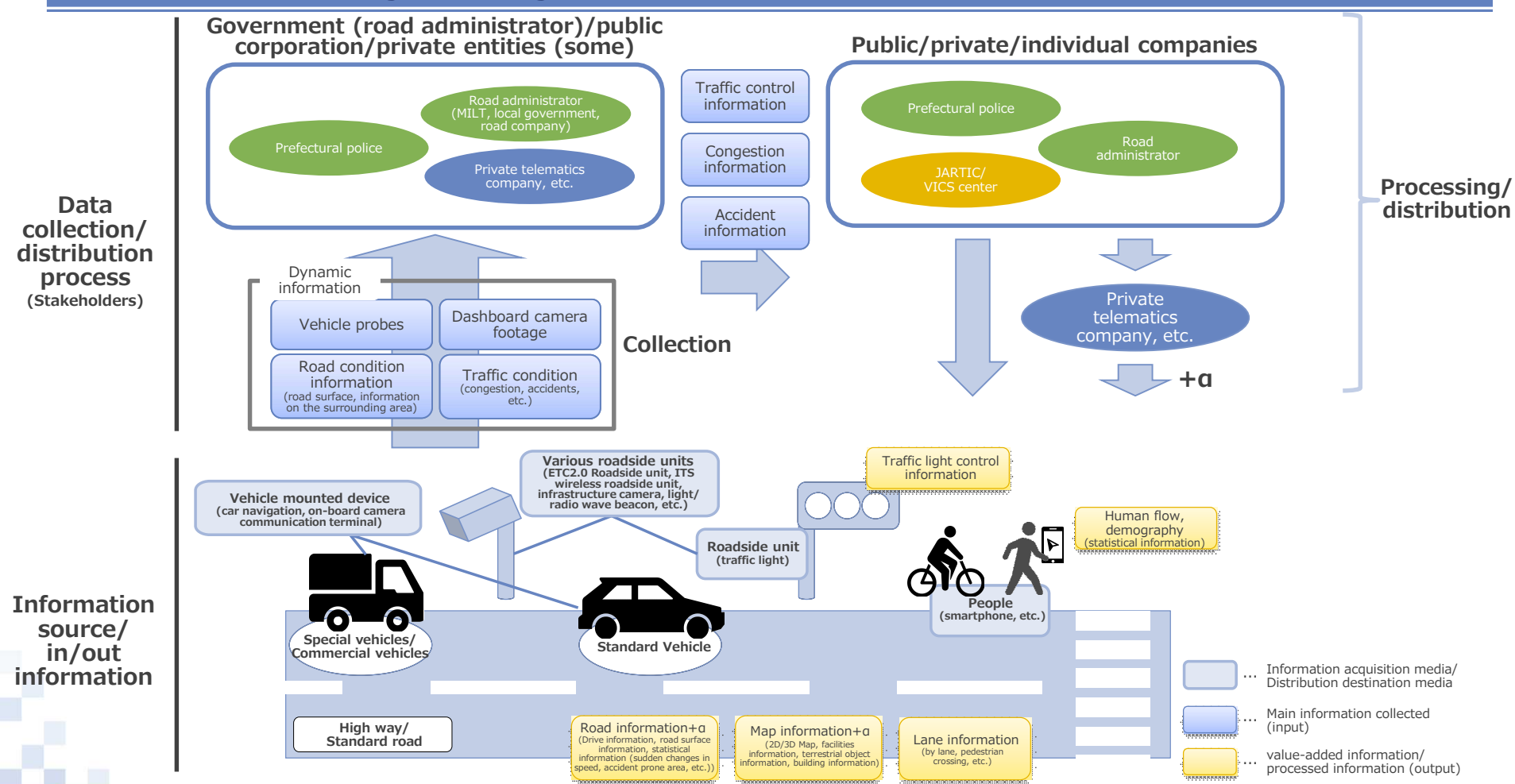
For MD communit to become a meeting place, it must continue to create innovative or topical services. The presence of public and private [key players](#) is essential for this to become a reality.

1.1 Dissemination promotion activities for sustainable operation of the portal site

Items to be implemented and verified on MD communit (1) (Relationship building with public and private key players)

- It was hypothesized that value-added information would be generated by combining distinctive government data and private data, and that the creation of new services utilizing this information would accelerate the resolution of social issues.
- Therefore, we decided to approach data providers who have such data to post the data.

Public-Private Data Integration Diagram



1.1 Dissemination promotion activities for sustainable operation of the portal site

Items to be implemented and verified on MD communit (1) (Relationship building with public and private key players)

- Aiming for 100 companies/organizations at the FY2023 social application, of all the players, including OEM companies, we focused on companies/organizations who are active in data utilization and the creation of mobility services
- For FY2021, we were able to create momentum in the listing of public-private-partnership data catalogs by utilizing SIP projects (government agencies) and the NTT group's connections

Plan for approaching companies to increase the number of members

User attributes	FY2021			
	1Q	2Q	3Q	4Q
B to B to C (Including G to B to C)	<div style="display: flex; flex-wrap: wrap;"> <div style="width: 50%;">Non-public</div> <div style="width: 50%;">Non-public</div> <div style="width: 50%;">Non-public</div> <div style="width: 50%;">Non-public</div> <div style="width: 50%;">Non-public</div> <div style="width: 50%;">Non-public</div> <div style="width: 50%;">Non-public</div> </div>	<div style="display: flex; flex-wrap: wrap;"> <div style="width: 50%;">Non-public</div> <div style="width: 50%;">Non-public</div> <div style="width: 50%;">Non-public</div> <div style="width: 50%;">Non-public</div> </div>	<div style="display: flex; flex-wrap: wrap;"> <div style="width: 50%;">Non-public</div> <div style="width: 50%;">Non-public</div> <div style="width: 50%;">Non-public</div> <div style="width: 50%;">Non-public</div> <div style="width: 50%;">Non-public</div> <div style="width: 50%;">Non-public</div> </div>	<div style="display: flex; flex-wrap: wrap;"> <div style="width: 50%;">Non-public</div> <div style="width: 50%;">Non-public</div> <div style="width: 50%;">Non-public</div> <div style="width: 50%;">Non-public</div> </div>
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Legend

- Candidate companies
- Key players
- Request to people related to SIP
- Implementation complete (revisit)
- Consultation candidates

The original plan of FY2021

User attributes	FY2021	FY2022		
	4Q	1Q	2Q	3Q
B to B to C (Including G to B to C)	<div style="display: flex; flex-wrap: wrap;"> <div style="width: 50%;">Non-public</div> <div style="width: 50%;">Non-public</div> <div style="width: 50%;">Non-public</div> <div style="width: 50%;">Non-public</div> </div>	<div style="display: flex; flex-wrap: wrap;"> <div style="width: 50%;">Non-public</div> <div style="width: 50%;">Non-public</div> <div style="width: 50%;">Non-public</div> </div>	<div style="display: flex; flex-wrap: wrap;"> <div style="width: 50%;">Non-public</div> <div style="width: 50%;">Non-public</div> </div>	<div style="display: flex; flex-wrap: wrap;"> <div style="width: 50%;">Non-public</div> <div style="width: 50%;">Non-public</div> </div>
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Legend

- Candidate companies
- Key players
- Request to people related to SIP
- Implementation complete (revisit)
- Consultation candidates

The revised plan for FY2023 social application

1.1 Dissemination promotion activities for sustainable operation of the portal site Items to be implemented and verified on MD communit (1) (Relationship building with public and private key players)

- MD communit aims to create many use cases of portals, mainly through events that activate the matching process, in cataloging, matching and service creation, which are the processes of using traffic environment information portals.
- Therefore, in addition to the idea creation event that was held last year and was well received, business matching event and follow-up event of idea creation event were held as new events this year.
- Due to the postponement of the entry for the KYOTO Raku Mobi Contest, the third Idea Creation Event has been rescheduled for the next fiscal year.

Planned events aimed at increasing the number of member companies

No	Event name	Date of holding
1	2nd Idea Creation Event	November 15, 2021
2	1st MD Commatch	March 16, 2022
3	Idea Creation Workshop	March 18, 2022
4	Third Idea Creation Event (KYOTO Raku Mobi Contest Collaboration Event)	Scheduled for June 2022

1.1 Dissemination promotion activities for sustainable operation of the portal site

Items to be implemented and verified on MD communit (1) (Relationship building with public and private key players)

- In the 2nd Ideathon, we welcomed Professor Hirose of the Keio University Graduate School of System Design and Management as a lecturer. Each team held investigations and gave presentations on service ideas using human flow data, travel history data, and tire sensing.
- Heated debates developed in each team, there was business matching in the subsequent business card exchange meeting, and some teams developed plans to realize ideas within their companies. We will support these plans in the future as MD communit.

Outcomes from the 2nd MD communit Event

Theme: Let's Think About Products and Services to Realize Safe and Secure Urban Areas that You've Never Seen or Heard of

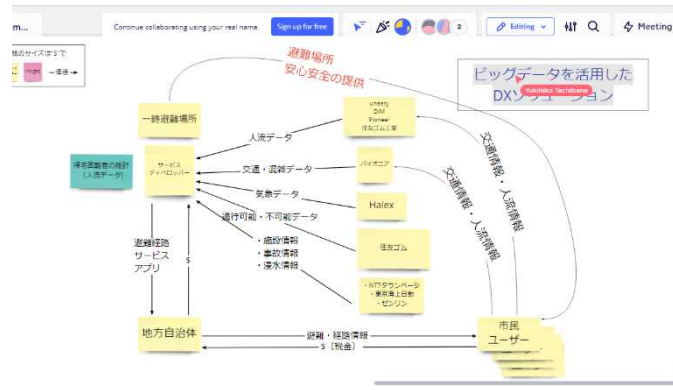
Date and time: 11/15 (Mon) 10:00 to 17:30



Introduction of data



Discussion



Ideas

1.1 Dissemination promotion activities for sustainable operation of the portal site

Items to be implemented and verified on MD communit (1) (Relationship building with public and private key players)

Reference: Ideathon (11/19), list of ideas

Team	Ideas	Data used	Notes
A	An advance disaster response service for stranded commuters that provides value in the form of safety and security by estimating the number of people who temporarily cannot return home.	Human flow information Facility information Accident information Flooding information Weather data Traffic/congestion information	
B	Service that prevents accidents and reduces fuel costs through identifying information on the risk of tire bursts and fuel consumption from tire air pressure and providing this to the service user.	Truck probe (Fuel consumption, distance travelled) Tire sensing (Tire air pressure information)	
C	A service that recommends locations for morning activities and breakfast according to the road situation when drivers wake up early. Provides notifications on corresponding departure times and fixed routes	Standard vehicle probes Map, POI information	
D	A service for ecological, safe, and secure truck transportation using truck information from logistics companies	Truck probe (Driving data)	

1.1 Dissemination promotion activities for sustainable operation of the portal site

Items to be implemented and verified on MD communit (1) (Relationship building with public and private key players)

- Matching event was held with the aim of co-creation by matching venture companies with MD communit members.
- In addition to discovering the potential of the business through the encounter with a company that the member company had never known before, the event became a trigger for the business expansion of the venture company. As there were many requests from participants for a regular meeting, we will hold a regular meeting in the next fiscal year.

Date and time of the event	Wednesday, March 16 13:00 – 16:30
How to hold the event	Online
Participants (Members)	7 companies
Participants (Venture)	5 companies

< After the event >



< Matching Results >

venture firm	Member companies (request for matching)
Company A	3 companies
Company B	2 companies
Company C	0 companies
Company D	2 companies
Company E	2 companies

1.1 Dissemination promotion activities for sustainable operation of the portal site

Items to be implemented and verified on MD communit (1) (Relationship building with public and private key players)

- An idea generation workshop was held for the purpose of solving the problems of local governments using traffic environment information.
- In the workshop, we focused on the problems of local governments due to snow accumulation, and examined and presented service ideas using traffic environment information.
- We set up a study group and held multiple study groups. We will proceed with the demonstration experiment from the next fiscal year.

Date and time of the event	Friday, March 18 18:00 – 20:00
How to hold the event	Online
Participants (Members)	3 companies

Examples of service ideas discussed in the workshop

アイデアスケッチ

スケッチ (3パネルのストーリーボード、イメージ図、写真等)

データ分析結果を基に、雪で進みが遅くなっている道を家を出る時にナビが知らせる

除雪車の位置は出さないけど、この道混んでいるからこっちの道から行きませんか？とレコメンドを出す

都度レコメンドを出しつつ、全然進まないのであれば、どこかに立ち寄るレコメンドを出して、渋滞をやり過ごしてもらおう。
→これの統計化がされてくると、このエリアはよく混むというのわかるから、事前に案内出したり、除雪の時間を変えたり、バスも事前に案内を出ることが出来る。

投票数：●●●

題名

雪の日以外でも大活躍

対象者はだれ？ (Who)

- ・ ドライバー (住民/企業)

舞台はいつ？ (When)

- ・ 常時

舞台はどこ？ (Where)

- ・ 車の中

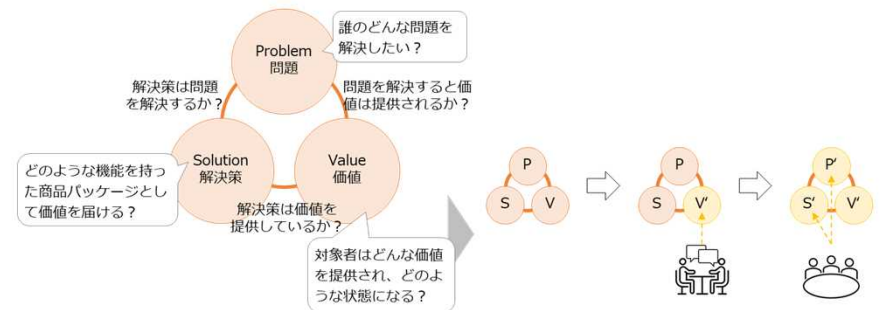
現在の差異はなに？ (What)

- ・ 情報のリアルタイム性
- ・ 情報の詳細度が高い
- ・ 地域特性を加味している
- ・ Googleマップより精度がいい

PVS model used in the review meeting

補：企画を支えるPVSモデルと考え方

PVSの観点で認知しながら、サービス仮説をアップデートしていく。



コアチームメンバーと仮説を構築

問題 (Problem) / 価値 (Value) / 解決策 (Solution) を可視化する

ヒアリングしながら仮説を改善し続ける

問題 (Problem) / 価値 (Value) / 解決策 (Solution) のバランスをとりながらアップデートし続ける

1.1 Dissemination promotion activities for sustainable operation of the portal site

Items to be implemented and verified on MD communit (1) (Relationship building with public and private key players)

- In collaboration with promotion activities for SIP, we took the course of broadcasting the importance of data linkage and data utilization in webinars from the perspective of the social issues at SIP café.
- We carried out projects based on ideas of plans we received from SIP PR regarding webinars concerning mobility data utilization and ideathon (in-person events) for developing new ideas (ongoing)

Process of collaboration with SIP promotion activities



Regular webinars regarding data utilization



Ideathon at an in-person event



Webinar to promote data coordination from the perspective of social issues

Development of

- Awareness regarding importance
- Momentum for service potential for data linkage and utilization

1.1 Dissemination promotion activities for sustainable operation of the portal site

Items to be implemented and verified on MD communit (1) (Relationship building with public and private key players)

- The 4th Technical Seminar "Coordinated Areas of Mobility Data Utilization and Data Provision" held by SIP café introduces MD communit initiatives and data utilization initiatives of each company.
- As we were able to confirm the following effects through the seminar, we will continue to hold the seminar to expand the membership of MD communit and accelerate the spread of data utilization.
 - ✓ **Raising awareness of MD communit**
 ->During webinars (15:00 to 16:00), **HP traffic increased**, from companies participating in seminars, **Membership registration**
 - ✓ **We can see the interest of companies in data utilization.**
 ->**Discovery of quasi-potential** and Possibility of collaboration with new companies through



[Outline]

Sumitomo Rubber and Pacific Consultants took the stage to explain their initiatives for the utilization of mobility data. After that, a panel discussion was held with Mr. Shimizu. The importance of the use of mobility data and the problems and solutions in this area were also discussed, incorporating questions from viewers.

- Day Hour Tuesday, March 15 15:00 – 16:30
- petition insertion Person 229 persons
- Cumulative viewers: 175
- industry information

◎public office	◎private sector
Ministries, local governments and affiliated organizations	Automotive OEM, automotive parts, mapping and navigation manufacturers, IT, consulting, trading companies, insurance companies, electrical machinery, infrastructure, public transportation (including taxis), media

1.1 Dissemination promotion activities for sustainable operation of the portal site

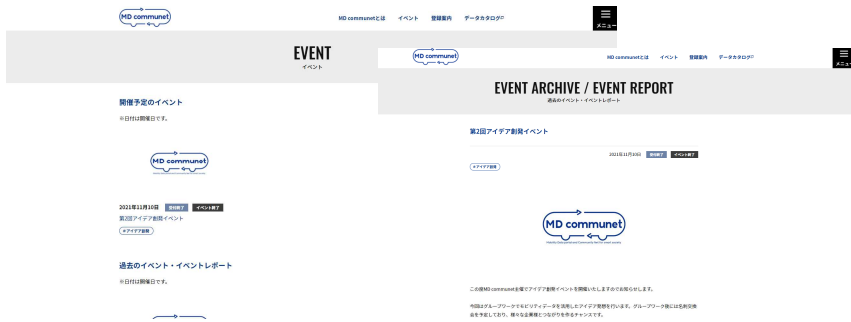
Addition to be made to the dissemination promotion website

- Regarding the improvements of the dissemination promotion website, we added extra functions and a new page to improve user experience and enhance information dissemination in the renewal of the dissemination promotion website on November 10.
- With the addition of functions and new pages, more information can be sent, which improves the MD communit withdrawal rate and the number of inflows to the data catalog site.

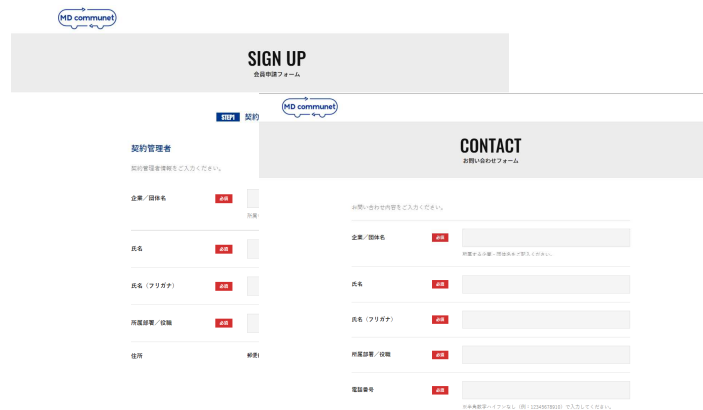
The renewed dissemination promotion website



Revisions: Top menu changed, banner added, news changed, events added, etc.



Added an event page



Set up at member application form and inquiry form



Added the list of members

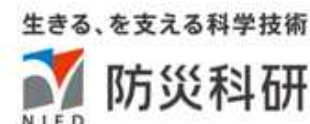
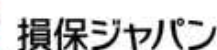
1.1 Dissemination promotion activities for sustainable operation of the portal site

Status of MD communit Members

- 27 companies or organizations are members as of January 2021 (11 companies before the general release)
Two new members are S.RIDE who own taxi probes, and Station Digital Media Corporation who develop mobile solutions for connected cars.
(In addition to the above, JARTIC has provided us with their catalog data, but they are currently considering whether to become a member)
(Yazaki Corp. are also making preparations so that they can become members)

Members of MD communit (as of March 2022) * A subset of all members

*50 alphabetical order



In addition, we have had representatives from transportation companies, logistics companies, etc. and cooperation from government agencies and organizations.

1.1 Dissemination promotion activities for sustainable operation of the portal site

Catalogue data of MD communit

- As of March 2022, we were able to publish 7,292 catalogs.
- In particular, we were able to publish unique data from both the public and private sectors, such as probe data provided by private companies and cross-sectional traffic volume and regulatory information provided by the National Police Agency.

Catalogue data of MD communit

#	Data Category	#	Data Category	#	Data Category	#	Data Category
1	probe information (tracks)	21	Public Transportation Service Information (Train, bus, etc.)	41	Neighborhood Pedestrian Read-Ahead Information	61	traffic control information
2	Probe Information (Taxi)	22	congestion information	42	Construction site route information	62	Public/commercial facilities
3	probe information (bus)	23	Road Regulation Information (Width/Height/Weight Restriction)	43	Accident vehicle location information	63	Delivery port (for trucks)
4	Probe Information (Construction Vehicles)	24	Onboard camera information	44	Parking information	64	Parking (for trucks)
5	Probe information (general vehicles)	25	wayward point	45	Regional Event Information	65	Rest Spots (for Trucks)
6	Probe information (special vehicles)	26	VICS Information	46	Share Cycle Utilization	66	Restaurant information
7	Intelligent Traffic Information (Traffic information by lane)	27	congestion prediction information	47	Emergency vehicle dispatch site	67	Taxi company information
8	Accident frequent site data	28	Commercial vehicle drive recorder video	48	Neighborhood Agreement Information	68	specific local information
9	weather information	29	Roadside camera information	49	eaves information	69	Public wireless LAN, WiFi spot
10	Tweet information	30	Lane Limit Information (Static)	50	driver's rest area	70	Specific area information
11	pedestrian network data	31	Traffic performance information	51	Toilet Information	71	Map data (car navigation system)
12	MSS (Population Distribution)	32	Human flow and traffic prediction	52	Crossing information (drawing data)	72	3D point cloud data
13	Rapid deceleration frequent point information	33	pedestrian signal	53	Rest Area (Bench)	73	tire sensing data
14	National land numerical information (inundation area (river and tsunami))	34	Information on past disasters	54	Barrier/Barrier-free information	74	Digital Map (3D)
15	Information on assumed locations of road flooding	35	Current disaster information	55	Signal Information (Dynamic)	75	Intersection control information (historical data)
16	3D map (width/height)	36	street tree condition	56	Crossing Information (Dynamic)	76	3D City Model
17	3D map (crosswalk)	37	Buried object information (Position, Depth)	57	traffic congestion statistical data	77	Cross-sectional traffic volume (historical data)
18	3D Map (Lane Data)	38	Travelable route according to vehicle body size	58	river water level		
19	3D maps (basic maps)	39	Parking vehicle information	59	Lane Limit Information (Quasi-Dynamic)		
20	2D Map	40	Neighboring vehicle look-ahead information	60	Wire Height		

Bold ... Data acquired (or expected)

1.1 Dissemination promotion activities for sustainable operation of the portal site

Issues for the Improvement of the Dissemination Promotion Website and the Portal Site

- Due to the measures we implemented, the number of MD communit members is steadily increasing. However, we have not yet reached the number of members that we targeted at the start of the project. In addition, as it is necessary to investigate measures focused on commercialization after the SIP project, we tried to improve MD communit. We focused on enhancing content and promotions for the recognition and understanding phase to accelerate the social implementation of MD communit.

Policy for improving the dissemination website and portal site

After the FY2021 release of the portal site, we increased the number of members through news releases and by Kuzumaki and NTT Data approaching companies. However, there is **insufficient acquisition of members**.

In the briefing session last year, issues regarding promotion were raised by Kuzumaki PD and Mr. Shimizu. They mentioned that there was **insufficient promotion of what MD communit will do for its members** and that **MD communit does not come up in search results**.

The improvement of MD communit and the enhancement of content and promotion for the recognition and understanding phase are urgent matters in accelerating the social application of MD communit.

Therefore we will implement the below three improvements in FY2021 and FY2022.

MD communit
Increase awareness



Improvement in user
understanding



Improvement in user
experience

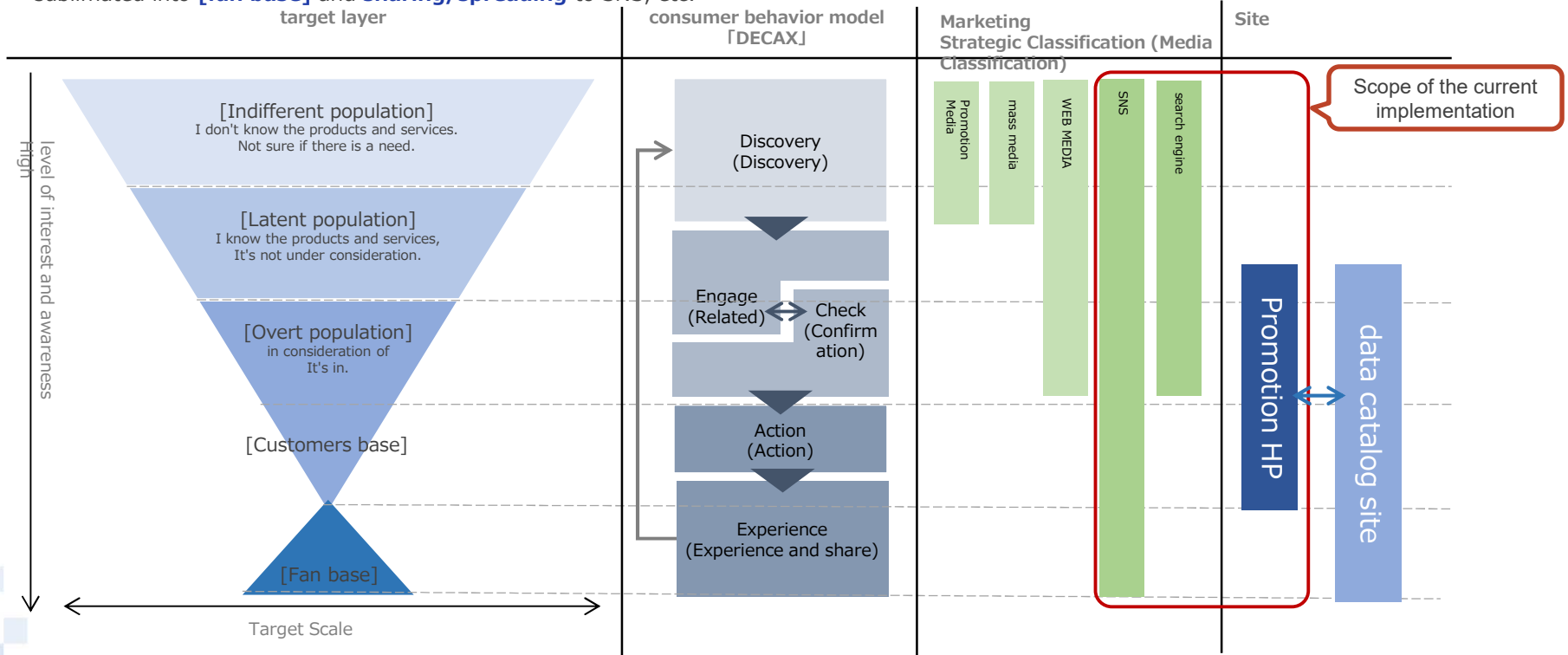


1.1 Dissemination promotion activities for sustainable operation of the portal site Strategic Policy for Refurbishing Promotion HP

- The following site strategies have been developed to raise the awareness of MD communit and expand the number of member companies.

Basic Strategy Policies

- Discovery** is made mainly by SNS and search engines to **[Indifferent population]** and **[Latent population]**. *Mass media, WEB media, advertising, etc. We are considering to use them as an additional **discovery** method
- Circulating the cycle of Inducement to sales promotion HP through search engine and **Relationship** ⇔ **Confirmation**, building relationship by **Attractive content and appeal** and sublimating to **[Overt population]**
- From here, **If we can take action**, **[customer base]** increases. At this time, by implementing measures to enable **reliving**, the population was sublimated into **[fan base]** and **sharing/spreading** to SNS, etc.



1.1 Dissemination promotion activities for sustainable operation of the portal site

Policy for refurbishing the website for promotion of popularization

- It is necessary to increase opportunities for users to "discover" by continuously producing high-quality content on HP and incorporating the best keywords for SEO measures.
- For this reason, we decided to create an HP with the aim of improving the content from "interest" and "confirmation" to "action" (member registration).

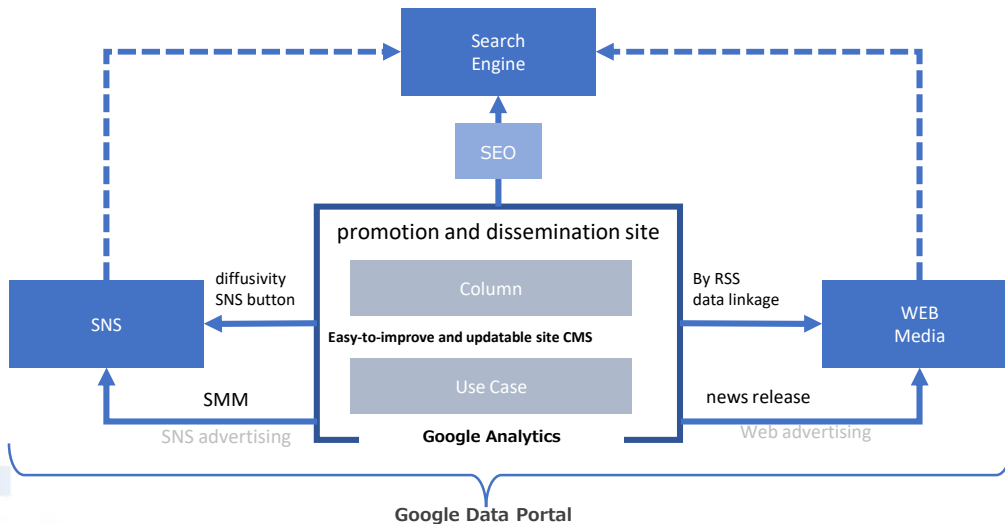
HP 's goal to promote adoption

Portal media site for traffic environment information

Mainly to acquire members and have users continue to use.
Aiming to become a comprehensive portal media site for traffic environment information

Construction of portal media sites for content media

upgrade from a current site similar to a promotional LP to a portal media site



Function implementation and measures for realizing content media

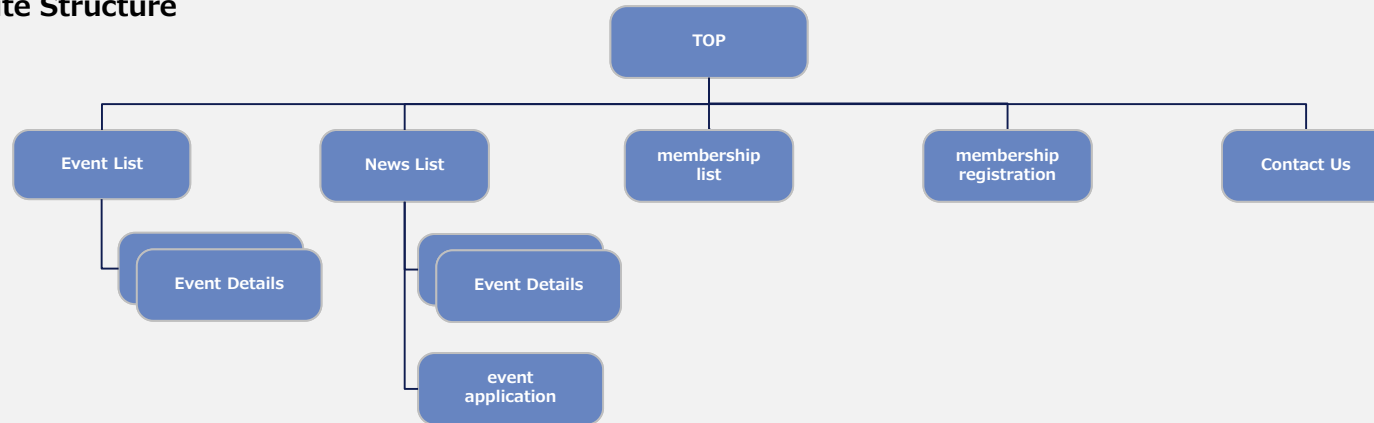
- ✓ SEO
- ✓ Collaboration with web media
- ✓ SNS support
- ✓ Site mobility and conductor design
- ✓ Global UI/UX

1.1 Dissemination promotion activities for sustainable operation of the portal site

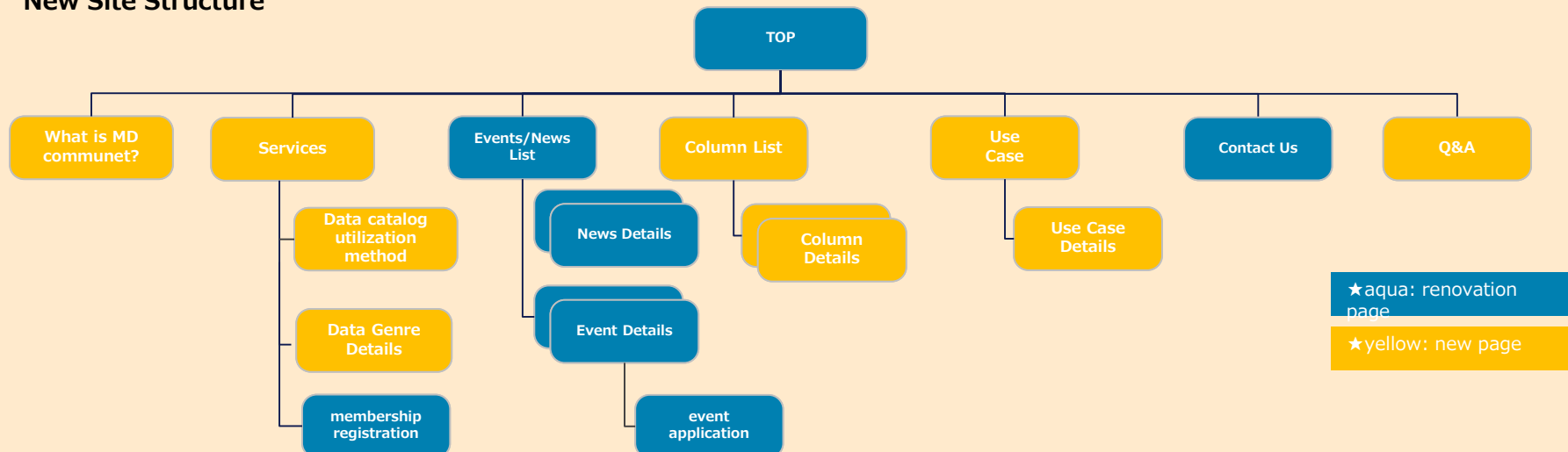
Proliferation promotion HP configuration plan

- Reviewed the information on the current site and redesigned the site structure to align with the above policies
- We aim to increase the amount of information and improve the understanding of users who visit MD communit for the first time by creating individual pages for MD communit, publication data, and use cases that are listed on the top page of the site.

Current Site Structure



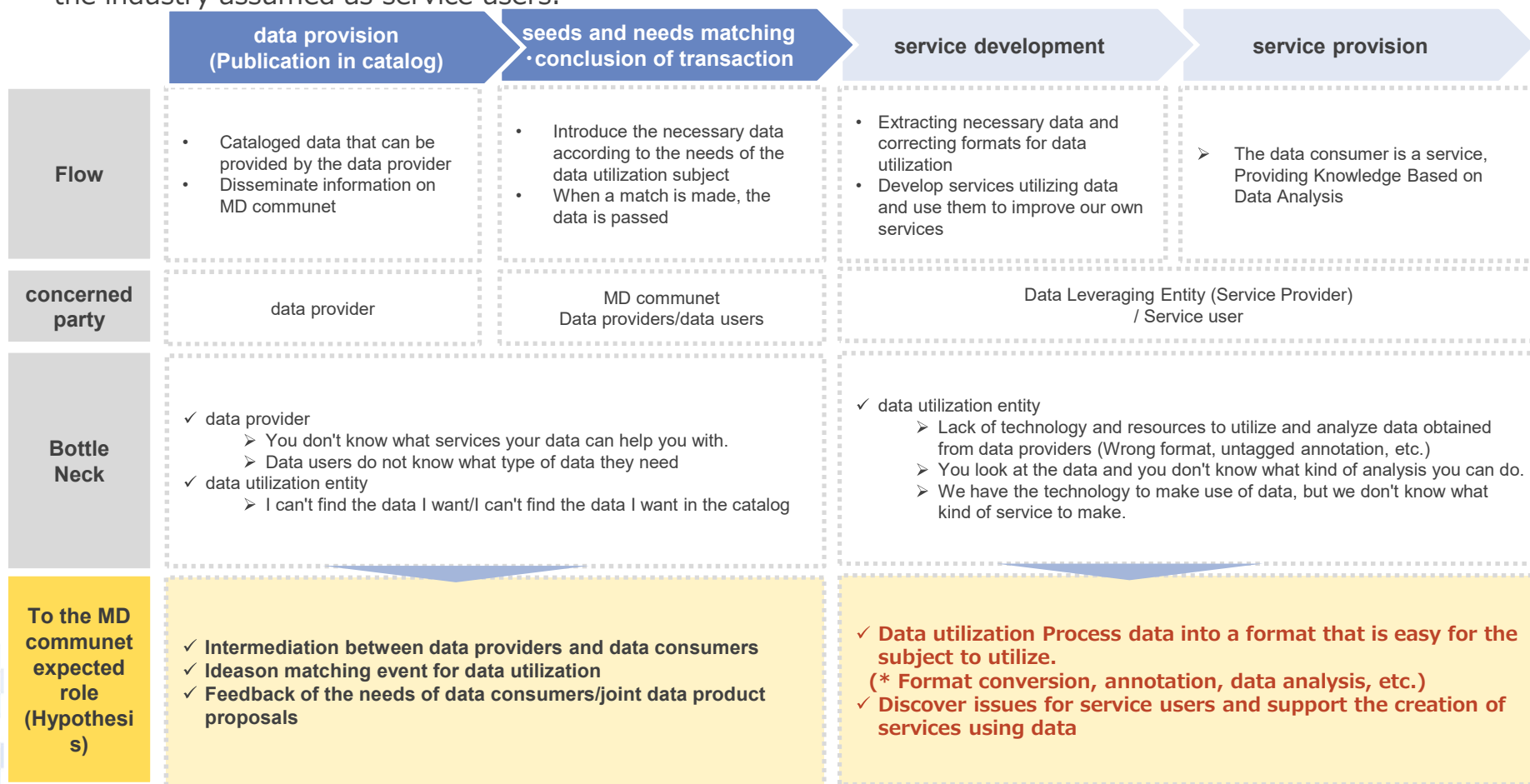
New Site Structure



1.1 Dissemination promotion activities for sustainable operation of the portal site

Study toward social implementation of MD communit (business model hypothesis)

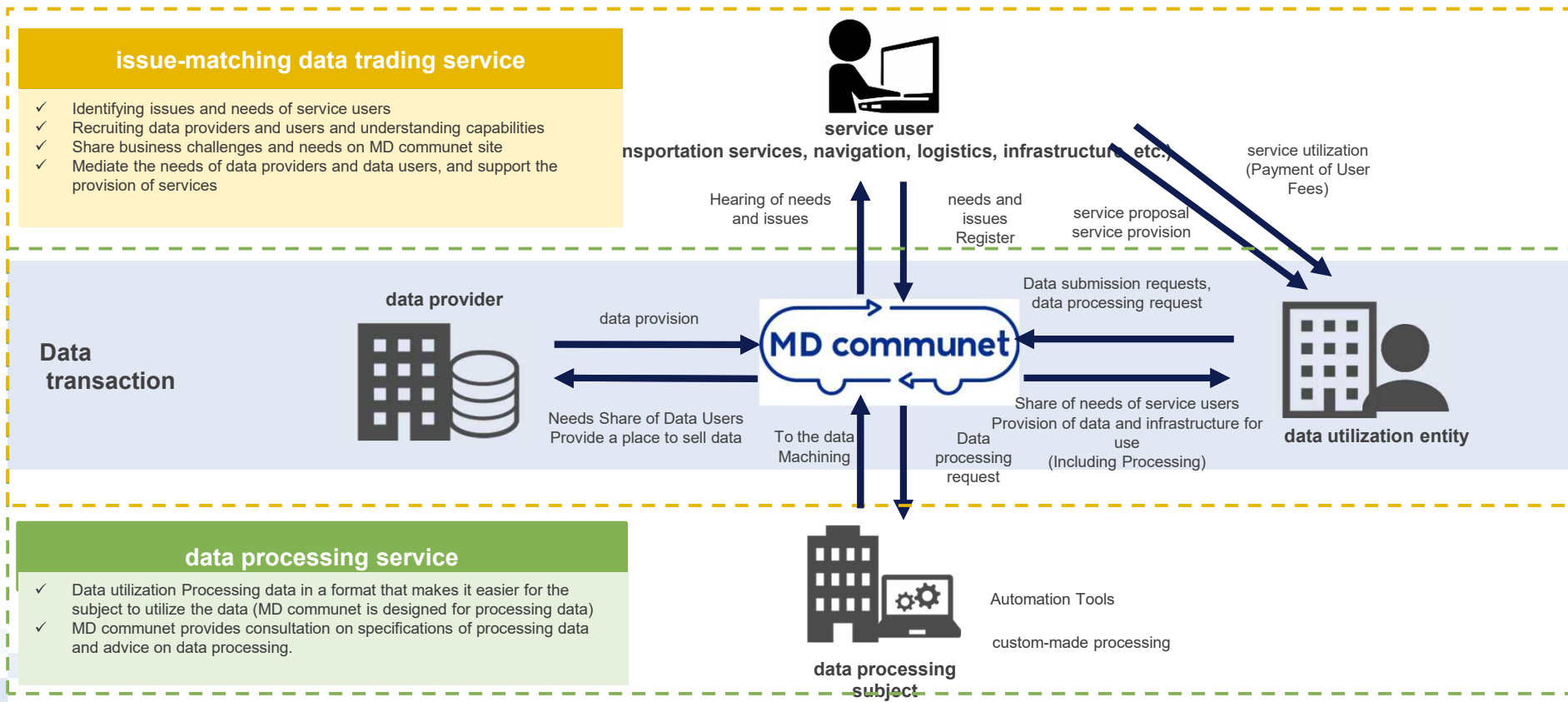
- Considering that MD communit will be implemented in society in the future, we examined a business model for MD communit to operate on its own.
- In considering the plan, referring to the service menu plan set at the beginning of the fiscal year, in order to eliminate bottlenecks until the provision of services, we set a hypothesis that it may be necessary not only to mediate data but also to develop products based on the needs of data users, process data, and identify issues in the industry assumed as service users.



1.1 Dissemination promotion activities for sustainable operation of the portal site

Study toward social implementation of MD communit (business model hypothesis)

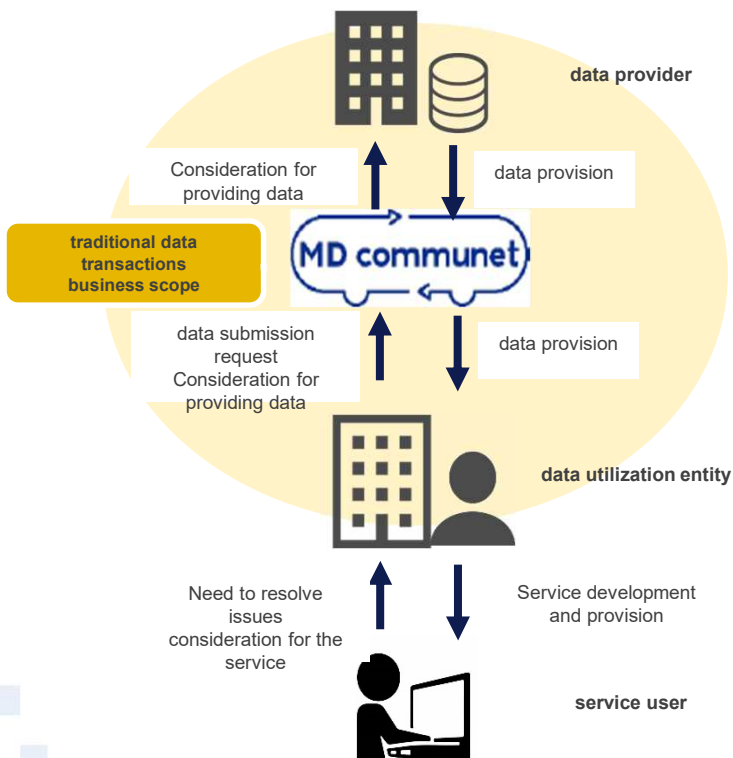
- This paper arranges the whole image of assumed data transaction business based on the set problem hypothesis. In data trading services, it is assumed that understanding the issues and needs of service users and using the data of members in the MD communit to solve them will promote data trading.
- Data processing services are supposed to facilitate service creation by providing data in the form desired by the data user or by providing tools capable of processing the data



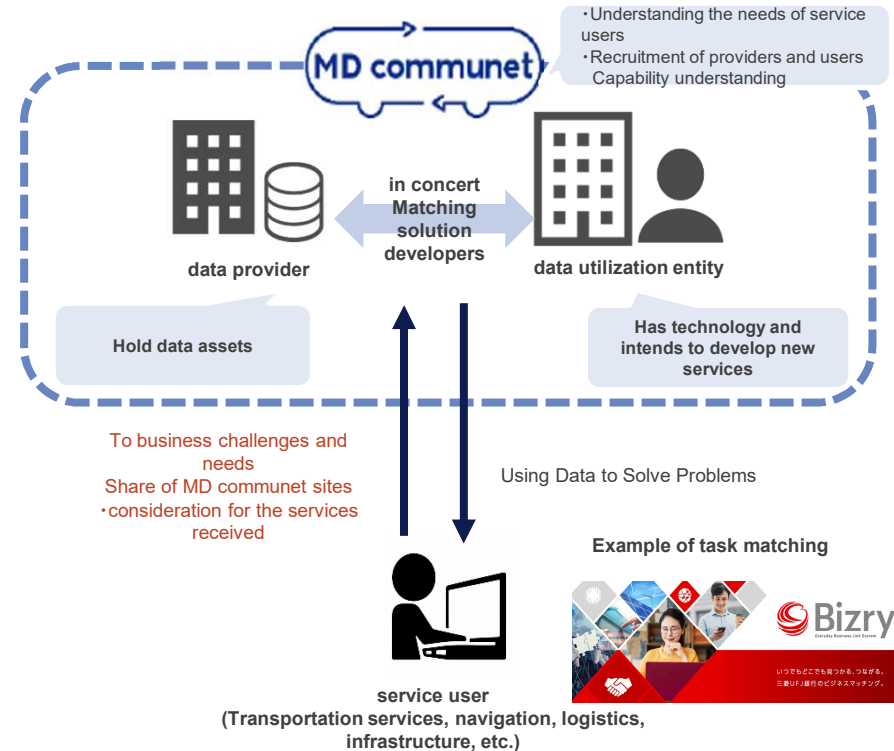
1.1 Dissemination promotion activities for sustainable operation of the portal site Study toward social implementation of MD communit (business model hypothesis)

- Traditionally, the scope of services has been to enable data utilization entities to procure the data necessary for their own services through trading markets. However, there are few entities that can plan service businesses using data, and market transactions are not active.
- It is considered that data transactions can be activated by sharing the issues and needs of service users on MD communit and by jointly creating services that lead to the resolution of issues between data providers and data users

traditional data transaction business



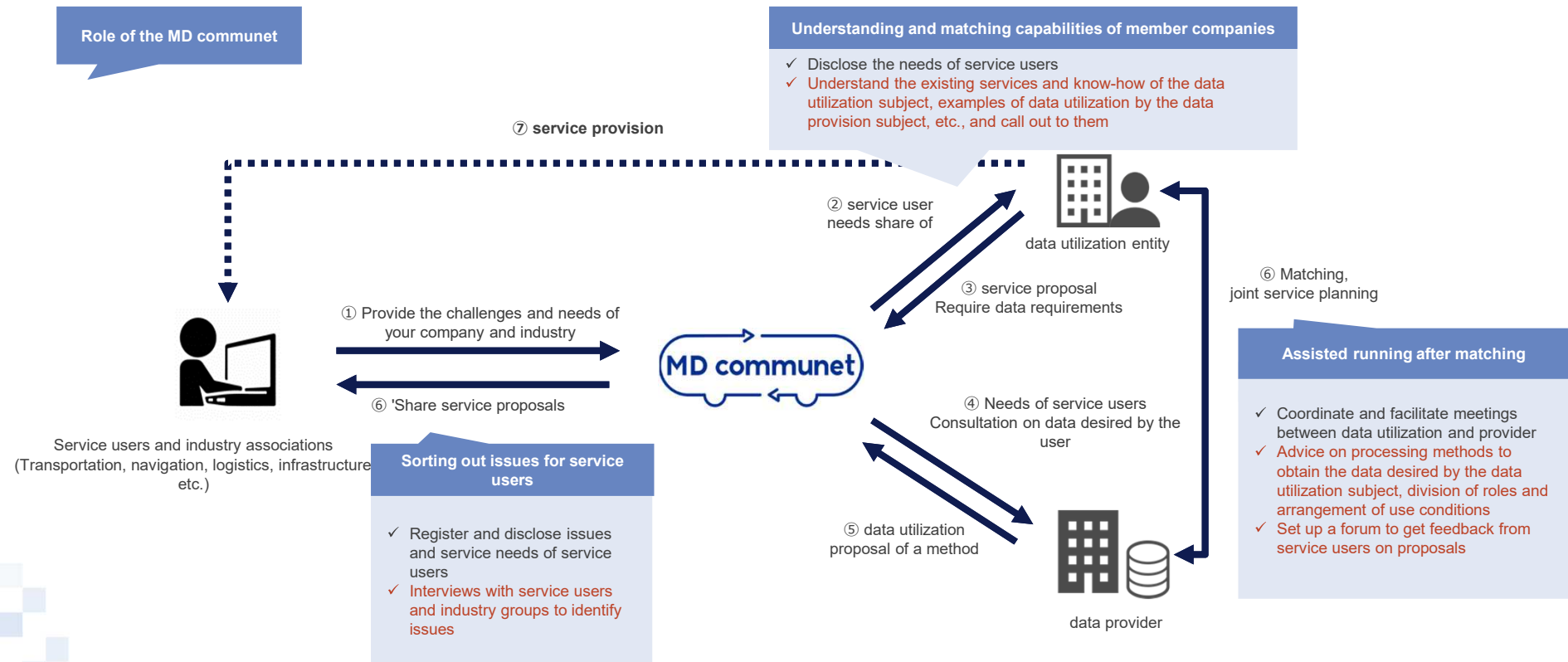
desirable way of doing things



1.1 Dissemination promotion activities for sustainable operation of the portal site

Study toward social implementation of MD communit (business model hypothesis)

- In matching issues, the MD communit is required to organize the issues and needs of the service users and share them with the data users and data providers. It is also required to understand the data held by member companies, examples of their use, and the characteristics of the services provided by the data users, and to play a role in matching the two.
- In the post-matching phase, it is considered necessary to support the creation of services while facilitating data transactions between data users and providers and providing proposals to service users.



1.1 Dissemination promotion activities for sustainable operation of the portal site Study toward social implementation of MD communit (business model hypothesis)

- By sharing the issues of service users, data utilization entities can utilize them in their own service development. In addition, for data providers, MD communit supports matching is expected to increase opportunities to utilize their own data and reduce the burden on business.
- The main advantages of data processing services are expected to be the reduction of costs and personnel resources for service development by data users. We expect it to help data processing entities sell their services.

Expected benefits of service delivery

	issue-matching data trading service	data processing service
Overview	<ul style="list-style-type: none"> Identify issues and needs of service users and share them on MD communit site Mediate the needs of data providers and data users, and support the provision of services 	<ul style="list-style-type: none"> Data utilization Process data in a format that makes it easier for the subject to utilize the data (Design of machining data is MD communit) MD communit provides consultation on specifications of processing data and advice on data processing.
data provision Benefits of the principal	<ul style="list-style-type: none"> Ability to sell their data to more companies on MD communit (promotion) MD communit can shoulder the burden of sales (sales agent) 	<ul style="list-style-type: none"> There is a possibility that data utilization entities who did not have the know-how to handle their own data can use the data (sales promotion).
data utilization Benefits of the principal	<ul style="list-style-type: none"> Ability to find and purchase specialized data such as automated driving and logistics Capturing the issues and needs of service users and utilizing them in the development of our own services 	<ul style="list-style-type: none"> Data can be processed into any format required by the company, reducing costs and personnel for service development and provision. Receive advice on data utilization and apply it to the development of your own services
data processing subject Benefits of	—	<ul style="list-style-type: none"> Can lead to more orders for data processing (sales promotion)
Benefits to service users	<ul style="list-style-type: none"> Providing information on business issues has the potential to provide a variety of services and problem-solving ideas from more service providers. 	—

1.1 Dissemination promotion activities for sustainable operation of the portal site

Study toward social implementation of MD communit (business model hypothesis)

- Conducted hearings with each stakeholder regarding the matters discussed above
- As a result, it was found that it was necessary to promote the utilization of data while examining ideas for the utilization of data to solve problems among the data utilization entities, the provider entities, and the processing entities.
- In addition, a model is conceivable in which the MD communit is responsible for the standard processing of data, and the cost of standardization by the data provider is used as a fee. Smaller operators may be rewarded for providing data that has been analyzed and processed, including data from other companies
- Based on these results, we will conduct trials in the next fiscal year to verify our business model.

	issue-matching data trading service	data processing service
Data provider	<ul style="list-style-type: none"> • Since the company has not been able to build a sales system for selling data, there is hope that MD communit will find demand. • If your data includes data from another company, you'll need to get consent from the provider. Unlike small operators, it is relatively difficult to obtain consent from large operators. 	<ul style="list-style-type: none"> • Including the data of other companies, it provides the data after preprocessing and standardization (Item order, digit adjustment, deletion of data related to personal information). • Preprocessing and row purification are internal costs. If the MD communit performs processing as a hub for processing, it may be considered that the MD communit is responsible for the reduction of internal costs.
Data utilization entity	<ul style="list-style-type: none"> • They are interested in using data to improve their services and solve problems in the field. • Major business operators accumulate and utilize data that they can acquire on their own and are reluctant to cooperate with external parties. Smaller operators benefit from the limited data available to them, including external data. • There is a need for study meetings on how to use data, as there is no know-how on how to solve problems by using data. 	<ul style="list-style-type: none"> • Data processing and analysis are made in-house as necessary, but no in-house processing system is in place. • For small businesses, if the MD communit can become a processing hub and provide us with the data we want (the data after processing), we may have to pay for it.
Data processing principal	<ul style="list-style-type: none"> • In addition to processing, you can participate in the modeling of data and the development of ideas for processing. 	<ul style="list-style-type: none"> • It can provide consistent support to members of MD communit from data preprocessing and annotation to data processing. You can also consider how the data is retrieved. • With regard to the role of MD communit, it is not necessary to define data specifications, etc., but it is enough to decide the goal that you want to aim at. • Need to familiarize customers with the data processing process if they do not understand it
Business Matching business operator	<ul style="list-style-type: none"> • Support matching by providing communication support, such as communicating the issues of local governments to business operators in an easy-to-understand manner, and communicating the company's technologies to other companies in easy-to-understand language. Issues and requirements for co-creation sites can be tagged and searched. • There are two models: one is to provide matching PF only and to bring in many companies at low cost, and the other is to provide support and training for co-creation. • There is a possibility that it will cooperate with Local Government Connect in identifying issues for local governments and supporting companies in driving, and AUBA in identifying issues for businesses and matching partners for data utilization. 	-

1.2 Portal site development

1.2 Portal site development Development policy

- The portal site we have continued to develop since FY2020 was released to the general public at the end of April 2021, and we have continued development as described below
 - ✓ UI/UX improvements based on user/operation feedback
 - ✓ Enhancement of matching (people and data)
 - ✓ Expand the amount of data

MD communit development policy for FY2021

Development for the general release (released at the end of April 2021)

- Aligned the design of the entire site with the dissemination promotion website
- Changed to thumbnail-oriented UI to improve visibility

Development in the first half of FY2021 (released at the end of September)

- Improvement based on user/operation feedback
- Enhancement of matching (people and data)
Add and improve searching and recommendation functions that use RDF and machine learning

Development in second half of FY2021 (April 2022 release)

- Improvement of UI/UX
- Expand the amount of data
- Promotion of matching

Data catalogue site



1.2 Portal site development

List of development items

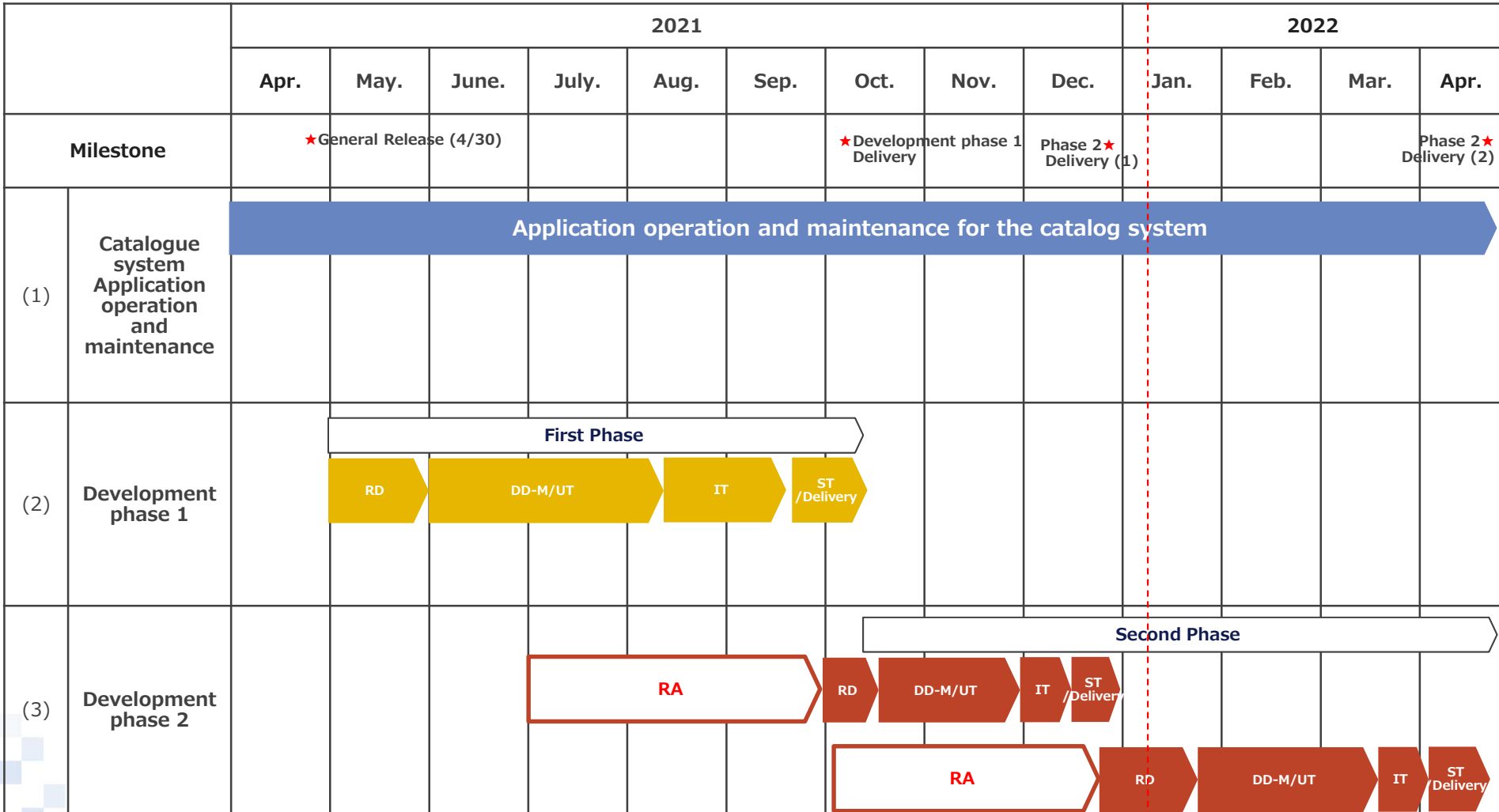
- In response to the development policy set, the following items were developed in this fiscal year

Development items of this year's MD communit

Item No.	development item	corresponding development policy		
-	Items to be developed in the first half of this fiscal year	UI/UX improvements	data expansion	matching promotion
1	Push notification function on the communication screen	○		
2	individual message function	○		○
3	PV of self-published data and browsing function of history	○		○
4	Recommendation Engine Modification			○
5	association support function for search terms			○
6	Responding to requests after publication (restriction of publication and removal of thumbnail requirement at registration)	○		
-	Development items for the second half of this fiscal year	UI/UX improvements	data expansion	matching promotion
7	Modifying Metadata Items	○	○	
8	Automatic completion of area information	○	○	
9	Improvement of data registration disclosure function	○		
10	Data processing tool registration		○	○
11	company profile page		○	○
12	Nice list.	○		
13	Follow function	○		

1.2 Portal site development (from FY2021 onwards) FY2021 implementation items and schedule

- While conducting operation and maintenance after the general release, we implemented development with two development phases



1.2 Portal site development (first half of FY2021) List of development items

- We implemented improvements to enhance matching functions that use search or machine learning, as well as UI/UX improvements based on operational issues and interviews with contest winners held in February 2021.

MD communit Development Items (First Half of 2021)

Number	Development	Action and response
1	Push notification buttons on the communication screen	UI/UX improvements based on user/operation feedback
2	Settings for making comments public or private	UI/UX improvements based on user/operation feedback
3	Viewing functions for the PVs and history of users listed data	UI/UX improvements based on user/operation feedback
4	Improvements to the recommendation engine	Enhancement of matching (people and data)
5	Support functions for search term association	Enhancement of matching (people and data)
6	Response to post-publication requests (removal of publication restrictions and the requirement for thumbnails when registering)	UI/UX improvements based on user/operation feedback

1.2 Portal site development (first half of FY2021) Main Developments (overview)

- In the first half of FY2021, in addition to improving functions based on user/operation feedback, we added and made improvements to the recommendation functions that use RDF and machine learning
- We created a new architecture that uses outside RDF resources and machine learning for support functions for the search term association

Main developments in the first half of FY2021

(1) Support functions for search term association (in collaboration with DBpedia)



SEARCH
検索
洪水

+ 条件を指定する

ASSOCIATION
関連キーワード
氾濫 (30)

Associated search terms are displayed through combining DBpedia and machine learning
E.g.: Flooding → overflow

(2) Changes to the recommendation engine and incorporating viewing history



事務局様へのおすすめ

半減期1.5時間実効雨量

Recommendation engine that incorporates users' actions faster and with more detail

(3) Personal message functions



あなたに寄附された個別メッセージを表示します。
ここでの個別メッセージは、当事務局でのみ公開され、他ユーザーには公開されません。

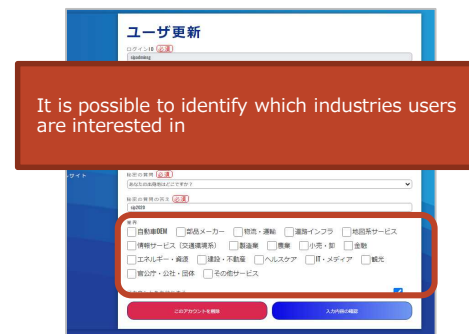
デモデータ
nttdatadev01 最終更新: 2021/08/14 11:46:09

返信内容を入力してください

返信

1-on-1 communication with the person that listed the data is possible

(4) Addition of industry information/display number of PVs



ユーザー更新

It is possible to identify which industries users are interested in

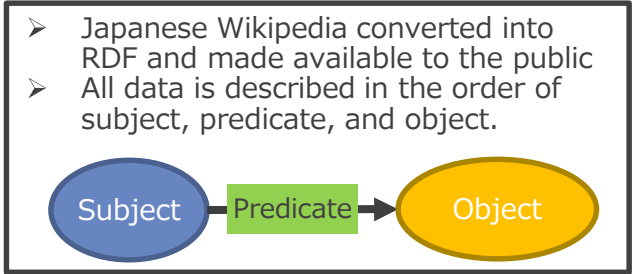
1.2 Portal site development (first half of FY2021)

Main developments: Support functions for search term association, use of DBpedia (<http://ja.dbpedia.org>)

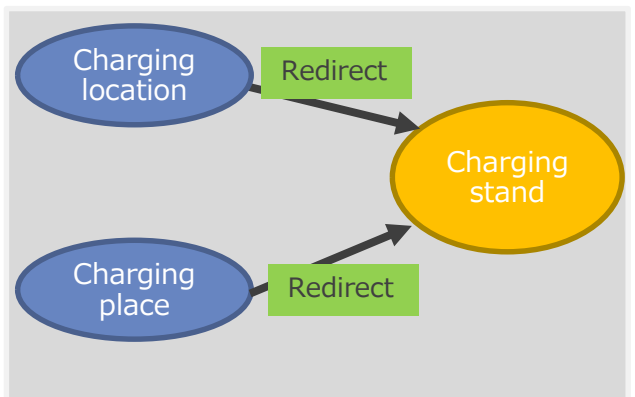
- The enormous amount of information in Wikipedia can be regarded as an external dictionary (corpus). Since it is converted to RDF and is open to the public, it is possible to easily obtain other keywords defined as “related terms,” “similar words/synonyms,” etc., for specific keywords.

Main developments in the first half of FY2021 (overview of support functions for the search term association)

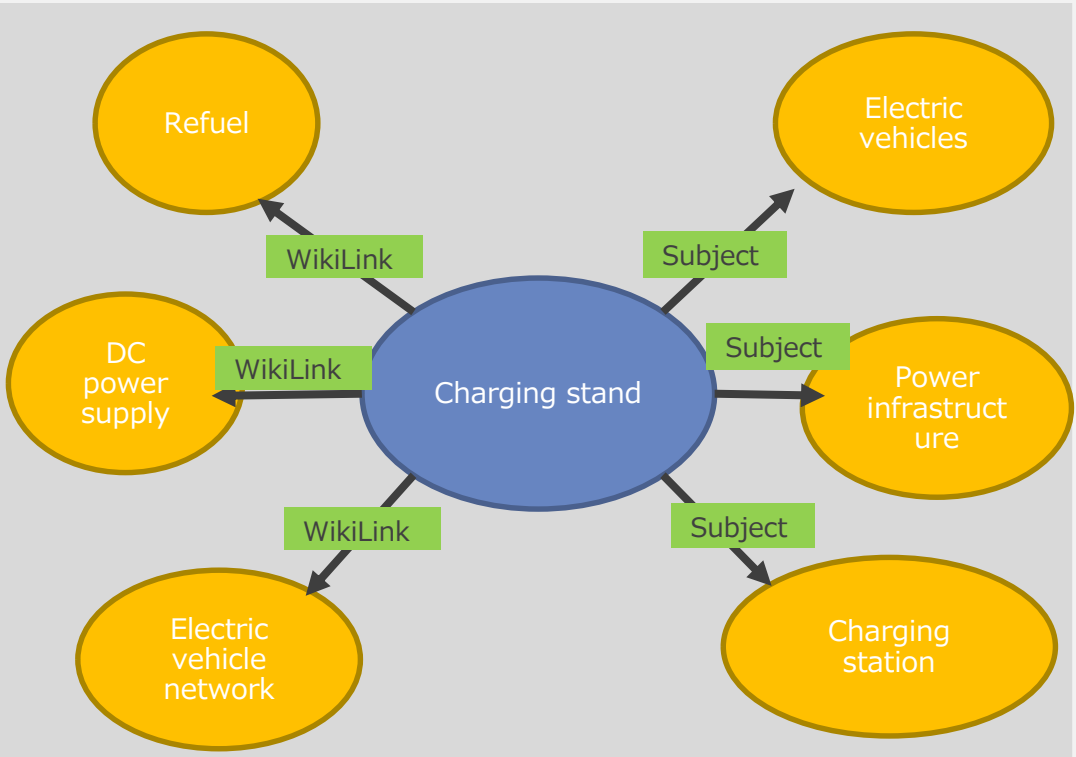
Overview of the Japanese version of DBpedia



Parallel concepts → synonym search



Related concepts → related keyword search



Note: You can also request the subject from the object

1.2 Portal site development (first half of FY2021)

Main developments: Support functions for search term association, use of DBpedia (<http://ja.dbpedia.org>)

Main developments in the first half of FY2021 (Main points of association support for search terms)

- Main points of this function
- Uses an external RDF resource
 - ✓ Preparation of related term dictionary is not required
 - ✓ There is an increasing trend in external RDF (LOD) resources
- Items are displayed in order of relevance
 - ✓ Uses existing machine learning functions
 - ✓ It is possible to calculate relevance unique to the system
- Ease of horizontal development to other projects
 - ✓ By just changing the linkage destination, it is possible to display keywords related to that system

The screenshot shows the DBpedia Japanese website interface. At the top, there are navigation links for 'DBpedia Japanese', 'ホーム', and 'SPARQL Endpoint'. Below the header is the DBpedia Japanese logo and a brief description in Japanese. The main content area is divided into several sections:

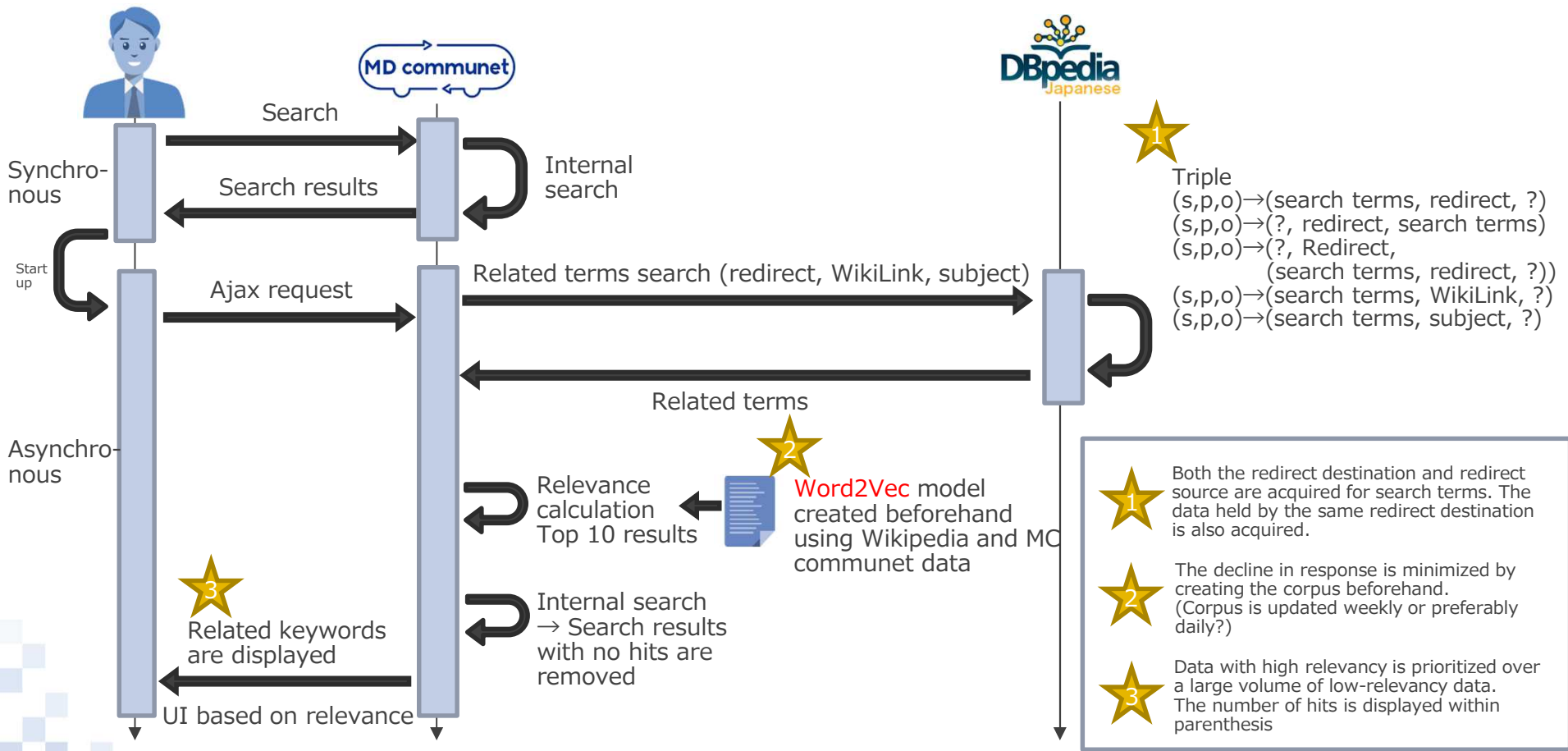
- README**: Contains version information (2021.03.01のデータダンプ, オープンソース版Virtuoso 7.2), information about changes from the old ja.dbpedia.org (PREFIX change), and contact information (Twitter: @dbpedia_ja).
- リソース例**: Lists various resources such as 東京都, 森業, 国立情報学研究所, etc.
- SPARQL例**: Shows two SPARQL queries. The first query is for '東京都' (Tokyo). The second query is for 'ロック音楽のリスト (もしあれば画像uriも)' (List of rock music (if available, image URI)).
- ダウンロード**: Contains a link for 'データダンプのダウンロード'.

1.2 Portal site development (first half of FY2021)

Main developments: Support functions for search term association, use of DBpedia (<http://ja.dbpedia.org>)

Main developments in the first half of FY2021 (Sequence diagram for support functions for search term association)

- We are cutting out and processing not to affect the response of the search result screen. However, when extracting related terms from Dbpedia, non-related terms may be included in the search results. Therefore, we are implementing filter functions that use machine learning at the stage when the search results are displayed to the user.



1.2 Portal Site Development (second half of FY2021)

List of development items

- The schedule was changed following the 4/25 release date for information on the Kyoto Contest
- Also, we have secured slots for Q4 development, and we will respond flexibly depending on the situation, as we are currently coordinating external integration, questionnaires, and consultation

MD communit development items (second half of 2021)

Number	Time	Item name	Overview
1	3Q	Metadata items are updated	Items for use cases are added, and hyperlinks are given to URL items
2	3Q	Auto complete for area information	If a string that matches the prefecture municipality match exists, then the metadata for that area can be set automatically
3	End of Q4	Improvement of publication functions for data registration	Functions added for private settings, saving drafts, and preview
4	End of Q4	<u>Registration of data processing tools</u>	A new data format was added, in addition to registered data and data requests. Promote matching between data processors and data holders.
5	End of Q4	<u>Company profile page</u>	A new data format was added, in addition to registered data and data requests. Allow company overview, services, and related data to be displayed
6	End of Q4	List of “likes”	Users can confirm who liked their listed data Users can confirm which data they liked
7	End of Q4	Follow functions	By following company profiles, users will be informed each time there is an update
We will investigate incorporating the below items in FY2022, while considering the balance with initiatives to improve UIUX.			
8	Undecided	Automatic collection of questionnaires	Add questionnaire function. Will appear automatically when viewing the catalog site. Controls will be put in places such as using cookies so that it does not appear when the user has already answered the questionnaire.
9	Undecided	User action log acquisition function	User activity logs (clicks) are obtained, and this is used as input information to promote matching further.
10	Undecided	Response to user feedback	We will identify and address problems through questionnaires, user consultations, and analysis of access logs.
11	Undecided	External integration	HERE/SIP cross-sector data integration platforms/ support for external collaboration with entities such as Jordan, etc.
12	Undecided	Improvement of regular collection functions	Make it so that data published after collection can be chosen (searched).
13	Undecided	Registration of data generation tools	For the implementation period, we will review priority, with particular attention to the suitability of the period when questionnaires are conducted

1.2 Portal Site Development (second half of FY2021) Development policy

- Development was centered on the three perspectives of UI/UX improvement, expanding the amount of data, and promoting matching. For Q4, we worked on UI/UX improvement as a top priority
- We also conducted additional development to expand the amount of data and promote matching
 - UI/UX improvement: We reviewed the entire dissemination/catalog site again to identify points for improvement, set priority, and implement improvements
 - Expanding the amount of data: We promoted expansion in the amount of data by increasing the amount of data subject to storage
 - Matching promotion: We separately developed input information acquisition and information dissemination to promote matching

MD communit Development Policy (Second Half of 2021)

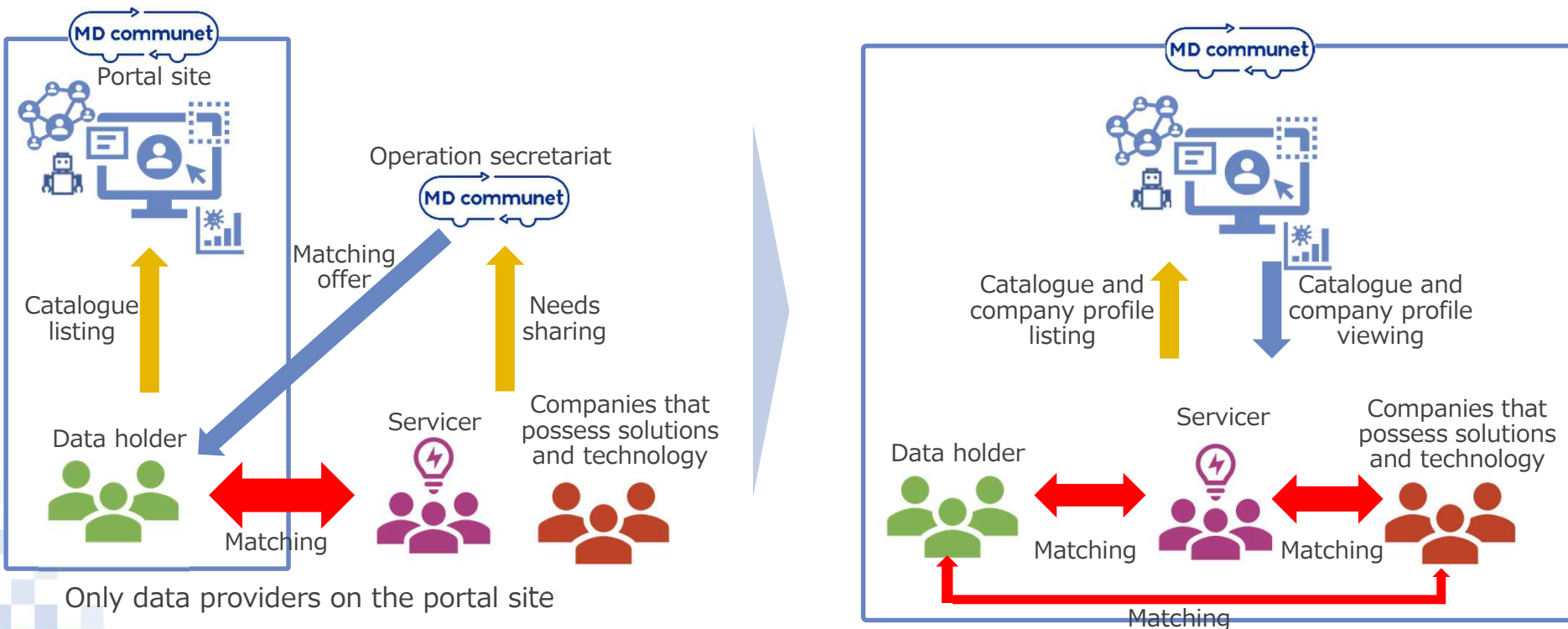
	Expand the amount of data	Promotion of matching	Improvement of UIUX
3Q	Manual catalog listing for other PF (HERE)	Auto complete for area information Update metadata items	Hyperlinking URLs Add data registration functions
4Q ~	Add data types (data processing tools/company profiles)		Improvement of UIUX

1.2 Portal Site Development (second half of FY2021)

Main Developments: Enhance matching by improving company profiles

- Of the stakeholders for the service creation process, only those who have registered can be seen on MD communit. Therefore, despite matching occurring offline, it is not occurring online as stakeholders who have not registered data cannot be seen on MD communit.
- Also, in the data catalog, there is no place for companies that possess solutions or technology to register on MD communit. Communication with companies other than those that own data catalogs is only possible through the secretariat.
- Therefore, we aimed to improve matching by setting up new company profile functions as a place for members to get to know one another, communicate, and learn about companies.

Main developments in the second half of FY2021 (company profile)



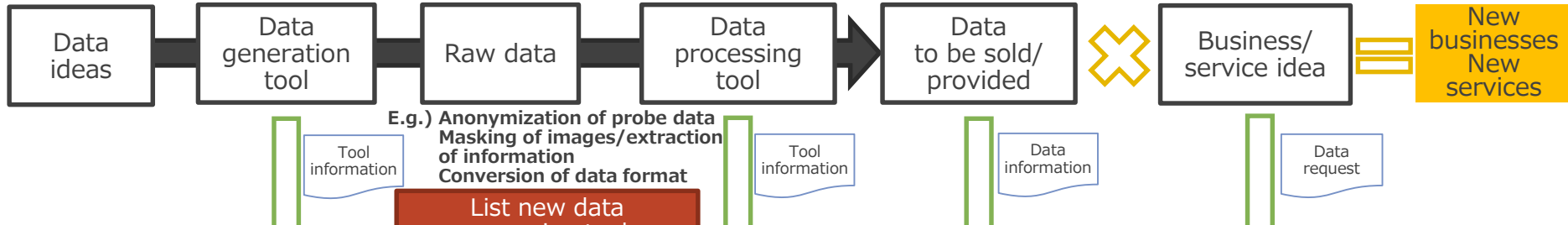
1.2 Portal Site Development (second half of FY2021)

Main developments: Support for service creation

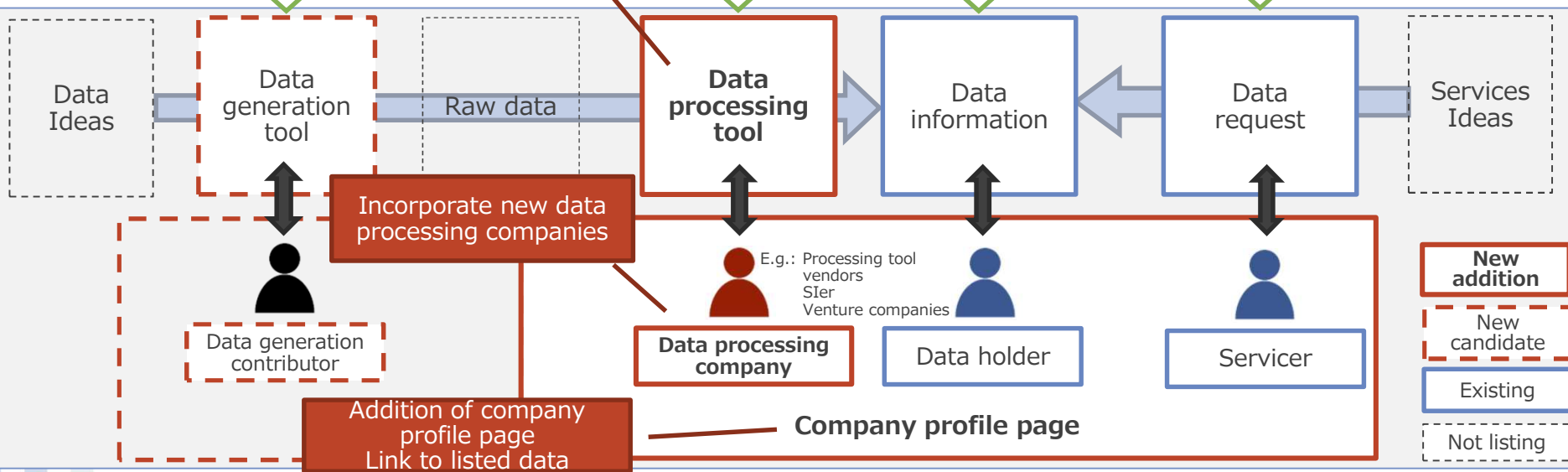
- By incorporating new data processing companies from stakeholders related to the flow of service creation, we will support the conversion of source material information into sellable data and further promote the creation of new services
- In the future, we will expand this scope and consider incorporating companies that have data generation tools, technologies, and services

Main developments in the second half of FY2021 (support for service creation)

[Process until service creation]



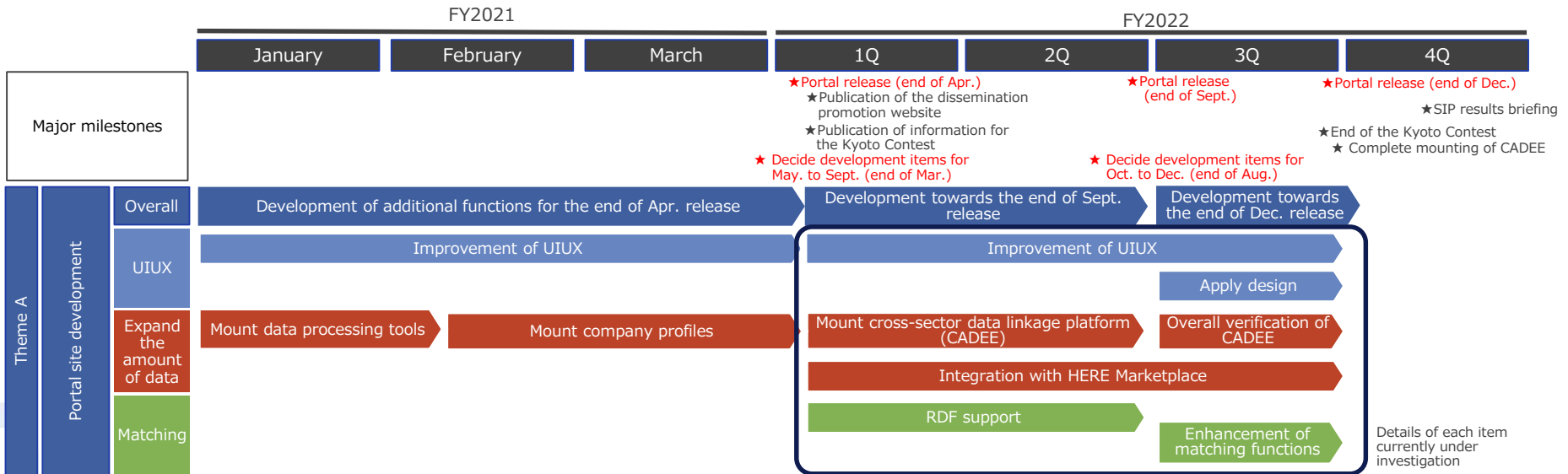
[Data listed on MD communit]



1.2 Portal site development (from FY2022 Onwards) Development plan until the completion of the SIP

- We continue with the existing policy, and also for FY2022, we will proceed with development from the three perspectives of UI/UX, increasing the amount of data, and matching
 - UI/UX: Continuing from FY2021, we will continue to implement UI/UX improvements
 - Expanding the amount of data: We will expand listing through cross-sector data linkage platforms (CADEE) and system integration with HERE
 - Matching: We will develop a platform that supports RDF and facilitates connections between data. We will further enhance matching functions using relevance between data
- After the release at the end of April, we will establish release points at the end of September and December
- We will continue to investigate individual development items within NTTD, and we expect that development items will be agreed upon at the end of March and August

Development plan until the completion of the SIP



1.3 Overview of verification promotion

1.3 Formulation of FY2021 implementation program

Overview: FY2021 Implementation Policy

- In this fiscal year, issues related to data utilization were sorted out in order to establish a service creation process using MD communit, while consulting with local governments and businesses interested in data utilization, based on the results of fiscal 2020.
- Examined and demonstrated schemes for creating services with the theme of solving social issues
- Through demonstration, MD communit support menu necessary for data utilization was organized.

FY2021 Implementation policy

Issues identified through verification in FY2020

- For the utilization and integration of collaborative data in the logistics sector that will lead to the solution of cross-industry societal issues, we extracted possible data candidates for collaboration fields related to the initiatives and issues of logistics companies based on investigations into the logistics industry's issues.
- We investigated service creation concepts that utilize the portal site taking into account issues and the orientation of the solutions for issues related to the usability and availability of the above data candidates. This was based on discussions regarding studies and demonstrations of logistics optimization based on an architecture that utilizes vehicle information such as SIP probes (hereafter, SIP logistics optimization).



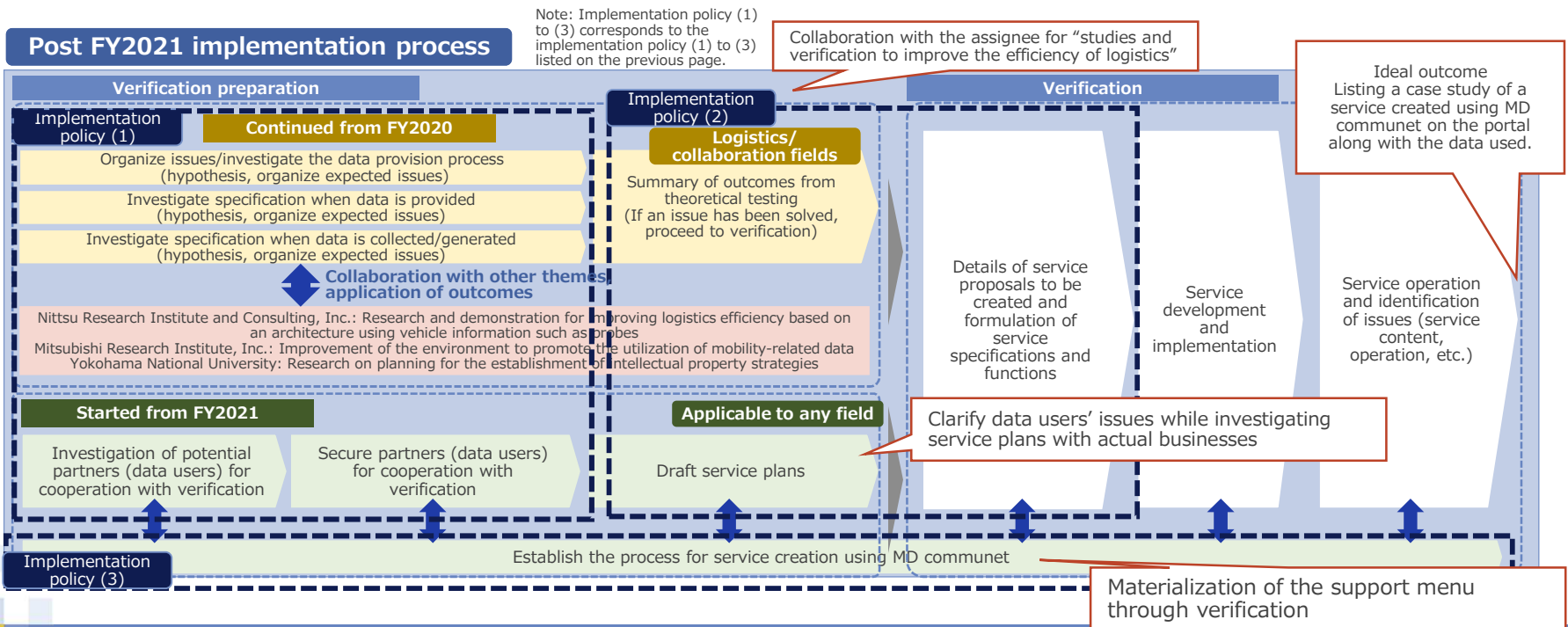
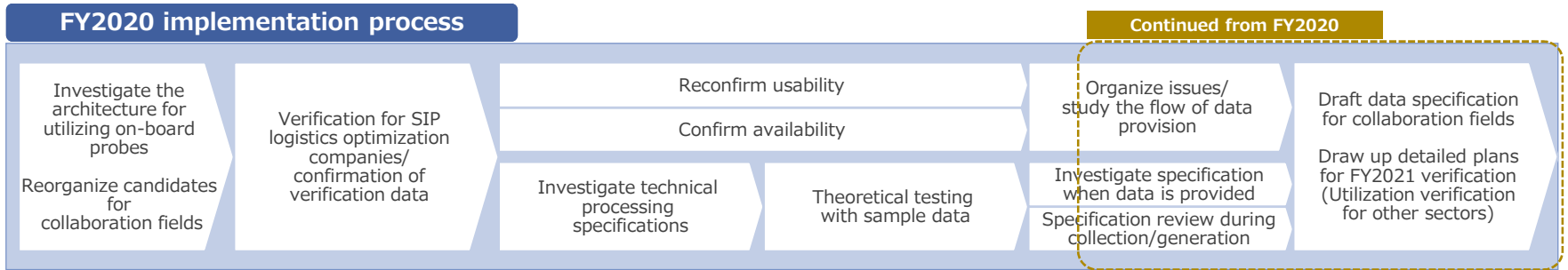
Implementation policy for FY2021

We will formulate detailed service creation plans by organizing issues and investigating various specifications for the realization of the service creation concepts that utilize MD communit data

- (1) Investigation into the orientation of unique and symbolic MD communit service creation (utilization of data from on-board probes, etc.)
- (2) Formulation of business topics (in line with the intent of the SIP project) that can be developed into services and solve social and corporate issues
- (3) Materialization of the MD communit support menu

1.3 Overview of verification promotion Implementation Process (Overview)

- To increase the possibility of service creation that utilizes MD communit data, we examined several service plans from the users' perspective at the operating entity
- We clarified the issues that occur when creating services and examined the materialization of the MD communit support menu

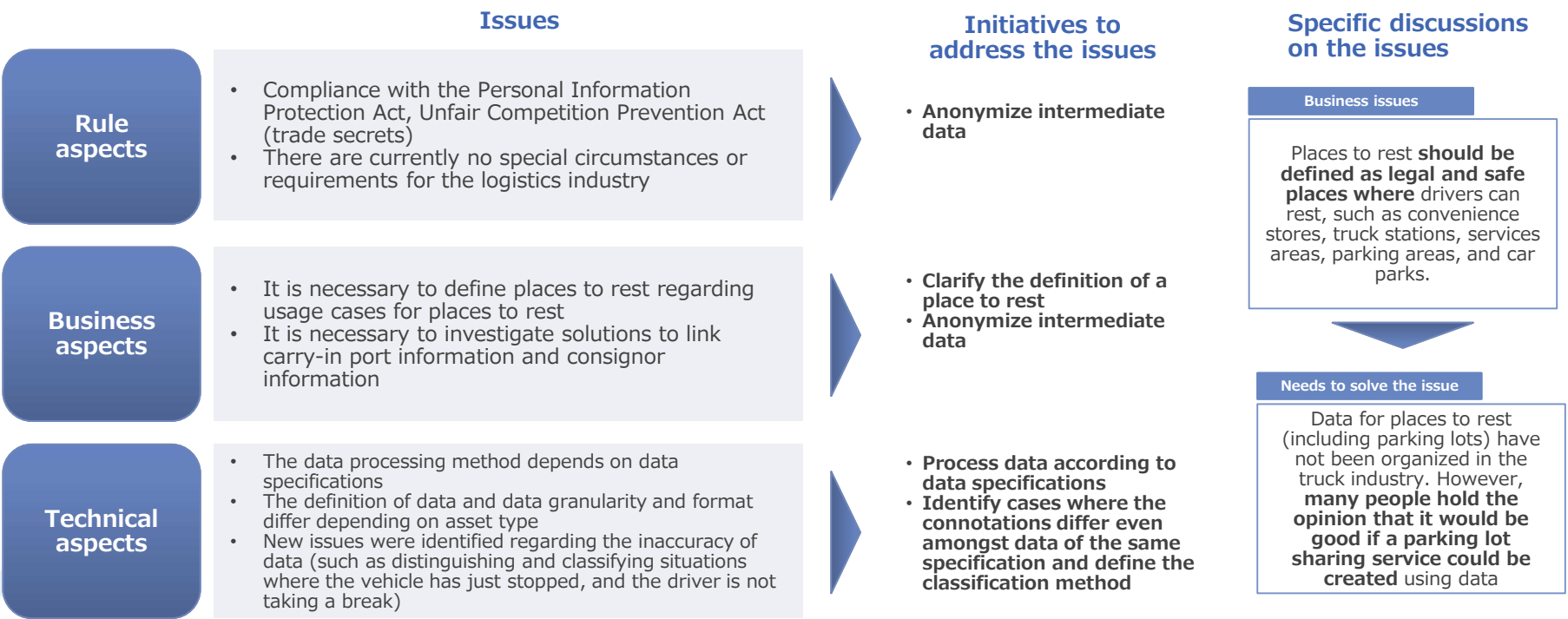


1.3 Verification results (1): Investigation into the orientation of unique and symbolic MD communit service creation

Overview

- For FY2021, to create symbolic services that are realized through MD communit, in addition to the issues we identified in FY2020 (issues with the availability of data), we set a hypothesis for the supposed user and examined proposals for verification that incorporated actual users, along with conducting discussions and investigations with local governments and sharing service and logistics operators.
- As a result, cost-effectiveness for service creation and data acquisition and obtaining desired data were identified as issues.
- In response to this, we selected verification themes that consider serviceability, availability, and compatibility of data and whether the service utilizes the characteristics of mobility data. We also identified issues that we will face while examining plans and investigated the orientation of solutions to these issues.

Issues identified in FY2020 (Results of hypothesis verifications based on discussions with SIP logistics optimization companies)

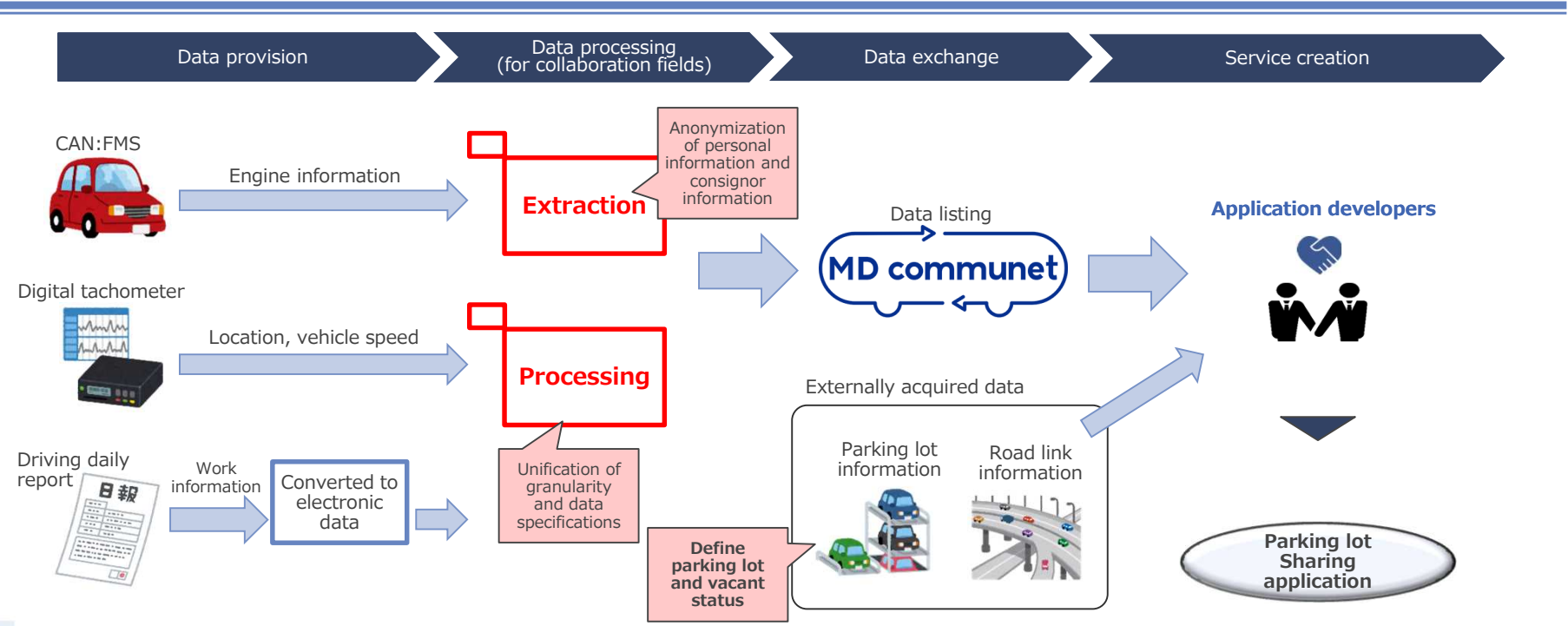


1.3 Verification results (1): Investigation into the orientation of unique and symbolic MD communit service creation

Hypothesis for the process for service creation based on the orientation of the solution of issues identified in FY2020

- In FY2020, we investigated issues regarding making data available for collaboration fields identified based on discussions with SIP logistics optimization companies and concepts for the creation of services based on the orientation of solutions.
- It became clear that there is a need in the truck industry for a parking lot sharing service that uses real-time parking lot vacancy information
- Based on the above, we hypothesized a process for service creation concept in light of the orientation of solutions to issues identified for rules, business, and technical aspects

Process for service creation concept based on the orientation of solutions to issues identified for rules, business, and technical aspects (hypothesis)

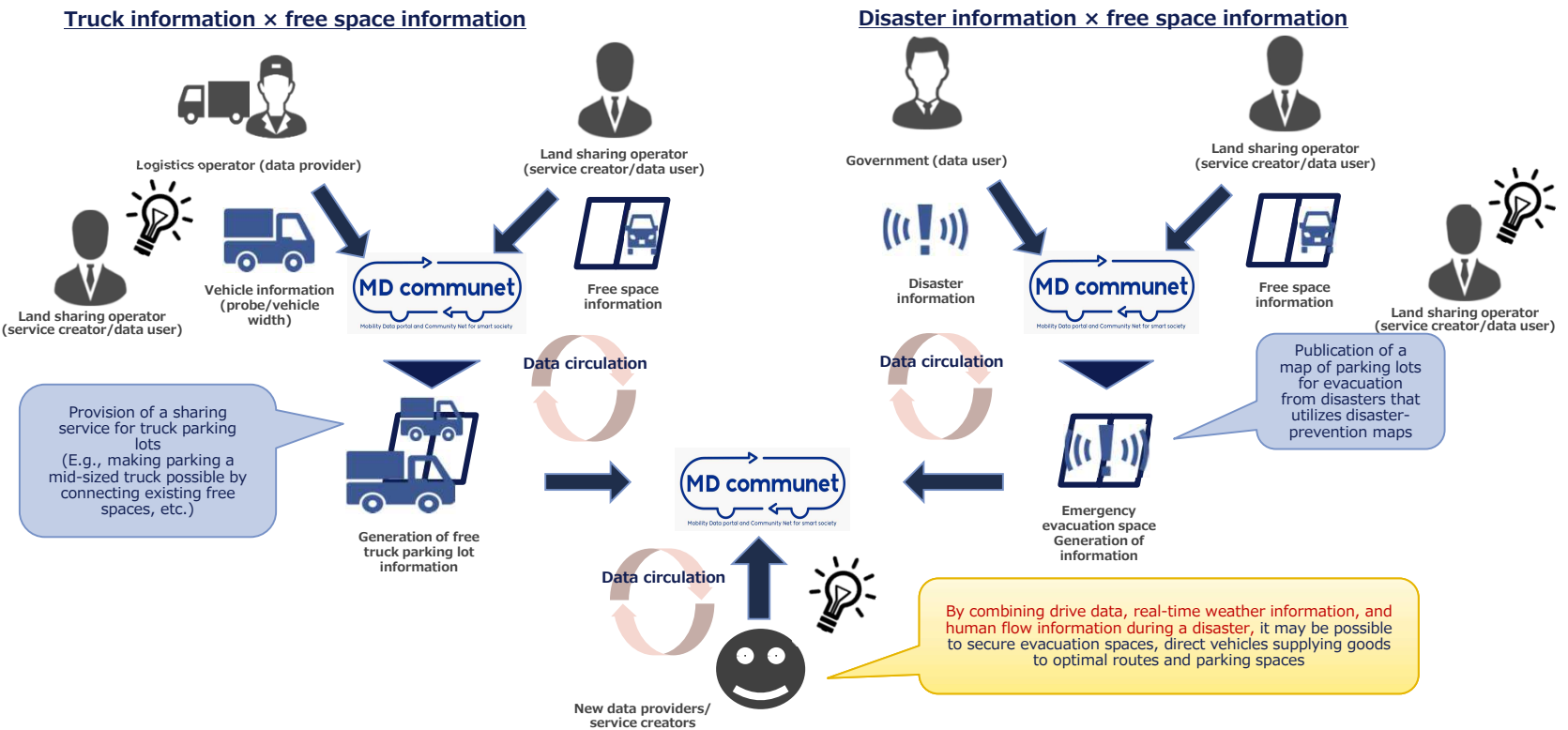


1.3 Verification results (1): Investigation into the orientation of unique and symbolic MD communit service creation

Concept for data circulation and continued service creation

- We investigated draft service plans at the operating entity that use data listed (or planned to be listed) on MD communit for data circulation and continued service creation based on the hypothesis for the process of service creation
- We prepared a scheme proposal necessary to realize services and identified what issues exist when creating new services by involving business operators and holding consultations with the expected stakeholders of the use case.

Concept for data circulation and continued creation of new services through MD communit



1.3 Verification results (1): Investigation into the orientation of unique and symbolic MD communit service creation

Outcomes of Consultation Held with Operators and Identification of Issues

- The cost-efficiency of data utilization was the common issue identified in discussions with the stakeholders of the two verification plans
- Services will continue after the SIP verification. In creating a mechanism for increasing the number of service stakeholders (providers and users), the operation side will take a balanced approach and increase the success rate by creating more use cases. It is also necessary to investigate a mechanism for determining cost-effectiveness at an early stage.

Orientation of unique and symbolic MD communit service creation based on consultations held with operators

Verification case	Issues	Orientation of solutions
Development of a public transportation network in the Ishikari Bay New Port Area	<ul style="list-style-type: none"> • Compared to existing transportation studies, a simple replacement will be difficult without displaying new added value (such as real-time capabilities, self-generating capabilities, etc.) • Investigation of methods to prevent the cost of obtaining and processing data for utilization from exceeding the costs of traditional study approaches 	<ul style="list-style-type: none"> • People who can determine the cost-effectiveness of data utilization are those from the business department of the business user company or organization. • So that they can imagine the impact of data utilization, it may be necessary to identify use cases and their associated costs at an earlier stage on MD communit. It is currently focused on information for developers.
Creation of a sharing service for truck parking lots	<ul style="list-style-type: none"> • There are few idle spaces in urban areas where there is demand for truck parking. • Companies are interested in using the service to utilize vehicle probe data. However, they cannot see how exactly they will use the service, and as the cost-effectiveness is unknown, they have not been able to utilize the service. 	<ul style="list-style-type: none"> • We will search for data providers by considering use cases (hotels along main roads, etc.) where we are likely to find data (land) with unexpected use-value. • It is necessary to investigate an effective way to register needs to ensure data completeness. • It is also necessary to clearly indicate the use concept and feeling of value on MD communit.

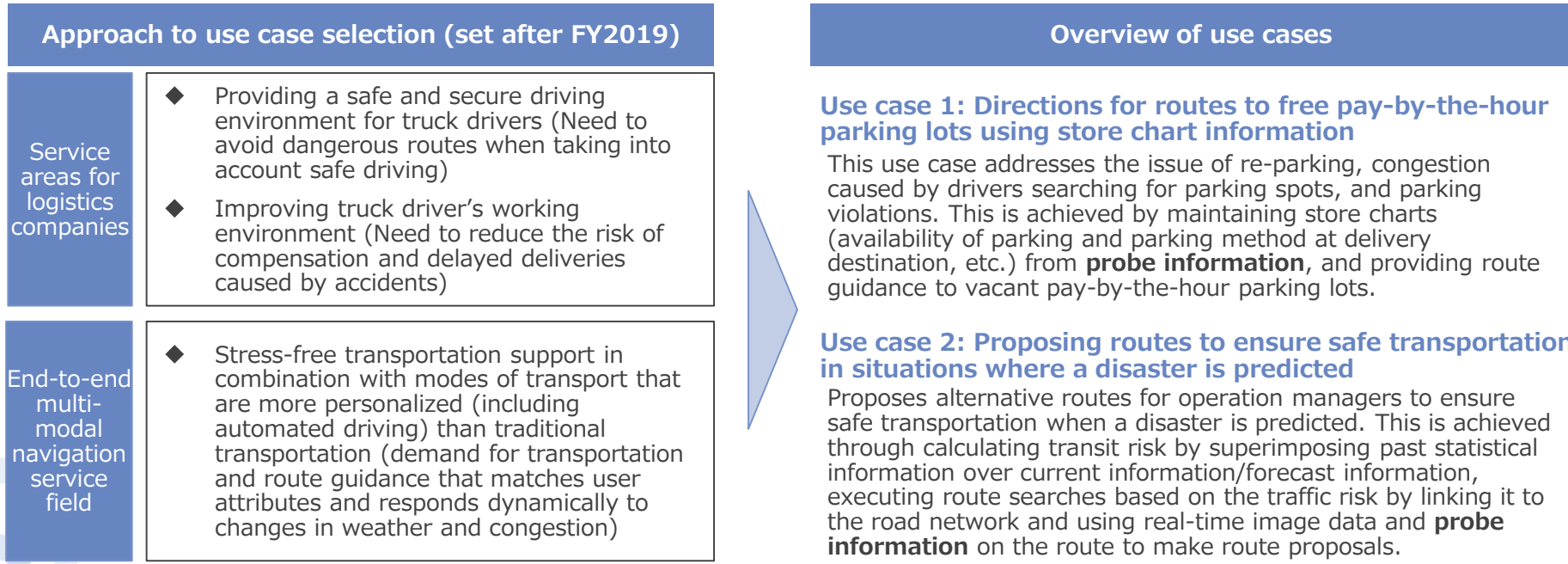
By investigating plans for several cases, we will clarify the role and function of MD communit based on specific issues in each process, from data acquisition/generation to the creation of data utilization services.

1.3 Verification results (2): Formulation of business themes that solve social issues/company issues and have serviceability

Overview

- Based on the direction toward the creation of a symbolic service unique to MD communit, we worked on the formulation of multiple use cases to solve specific business issues faced by service users.
- In designing use cases, we are focusing on solving social issues and utilizing vehicle probe data in accordance with the objective and purpose of this project, and we are currently working with trading companies and logistics companies to examine and verify use cases as specific use cases.

Implementation process: Formulation of business themes that solve social issues/company issues and have serviceability

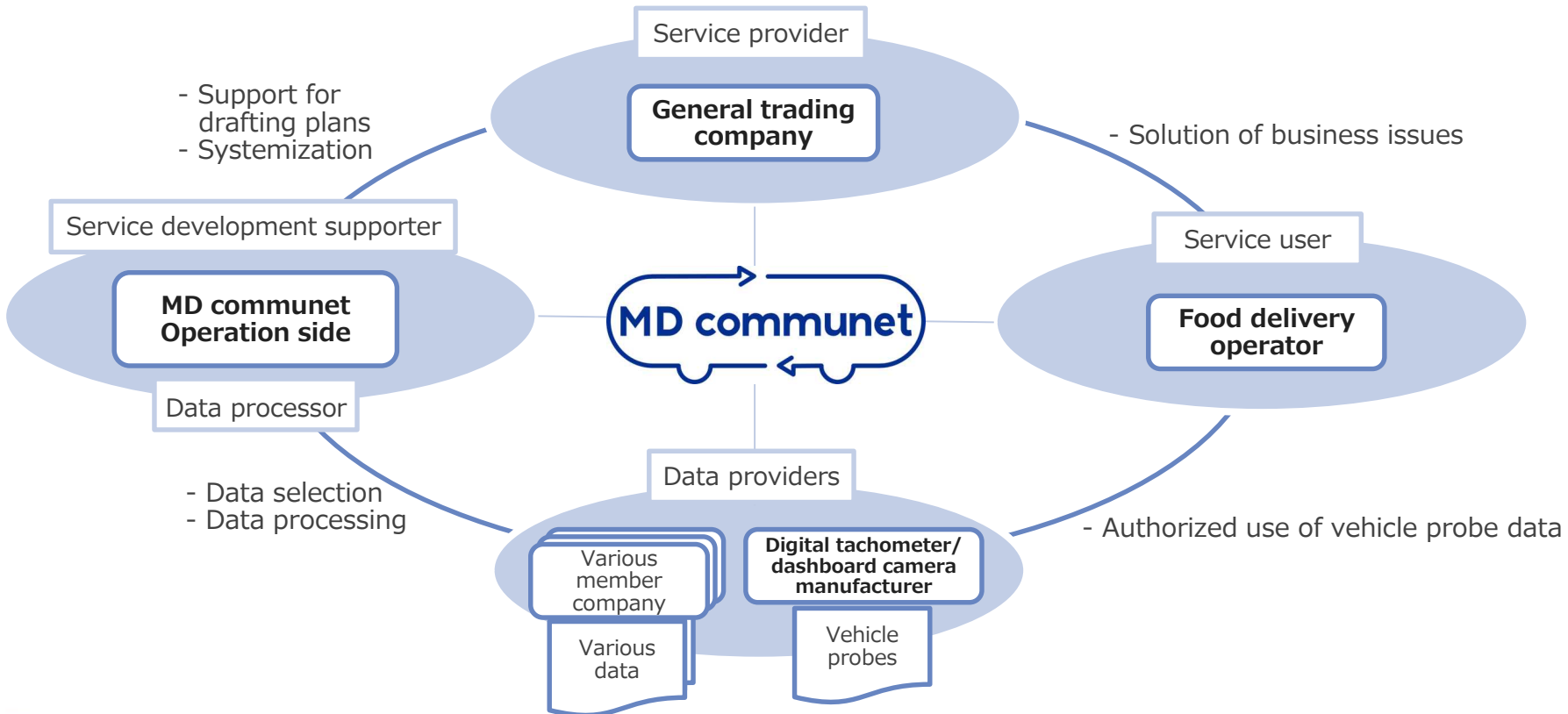


1.3 Verification results (2): Formulation of business themes that solve social issues/company issues and have serviceability

Creation of a scheme that is necessary for service creation

- There was an issue with the availability of vehicle data. However, we created a scheme necessary for service creation that encompasses manufacturers of the digital tachometers that produce vehicle probe data, trading companies that plan service creation, and service users who have business issues and who are also owners of data.
- Based on the scheme, we drafted several use cases that solve actual business issues faced by users

Creation of a scheme that is necessary for service creation

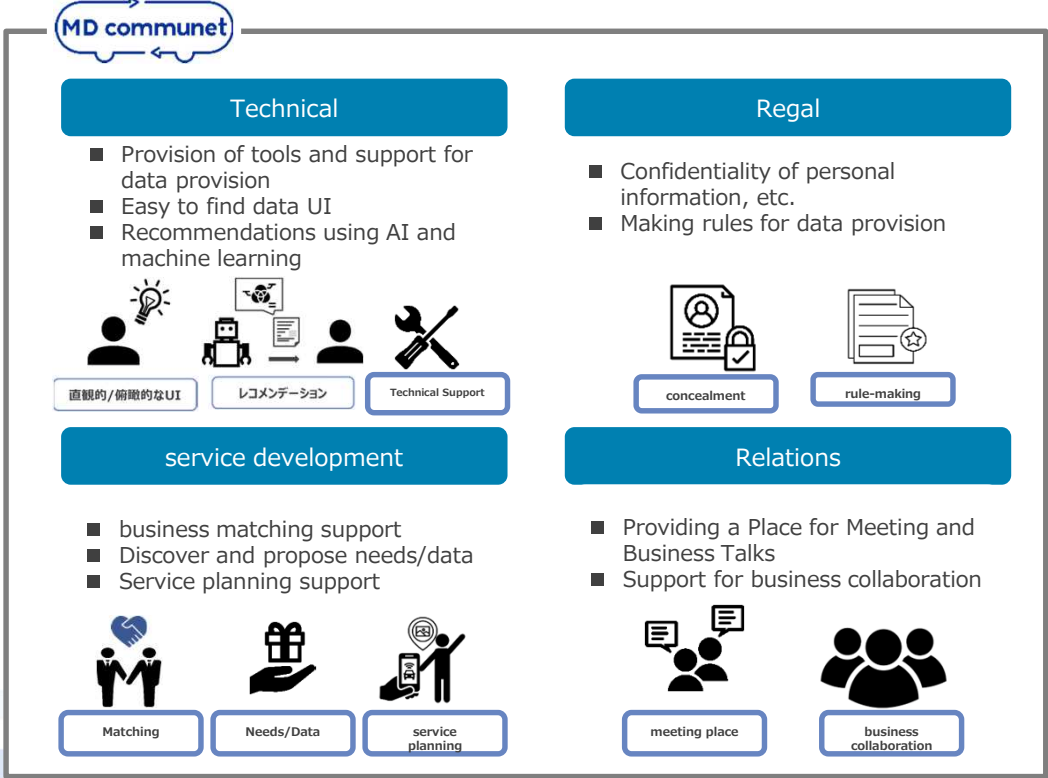


1.3 Verification Results (3): Materialization of the MD communit support menu Overview

- Through the activities set forth in (1) and (2) of the Implementation Policy, we worked to flesh out the support menu necessary for creating services through data utilization.
- Data Multiplication Technical Assistance worked to develop design templates that could be applied to a variety of use cases

Items to be implemented and verified in this fiscal year to establish the MD communit service

Proposed services provided by MD communit



Implementation and verification in the MD communit

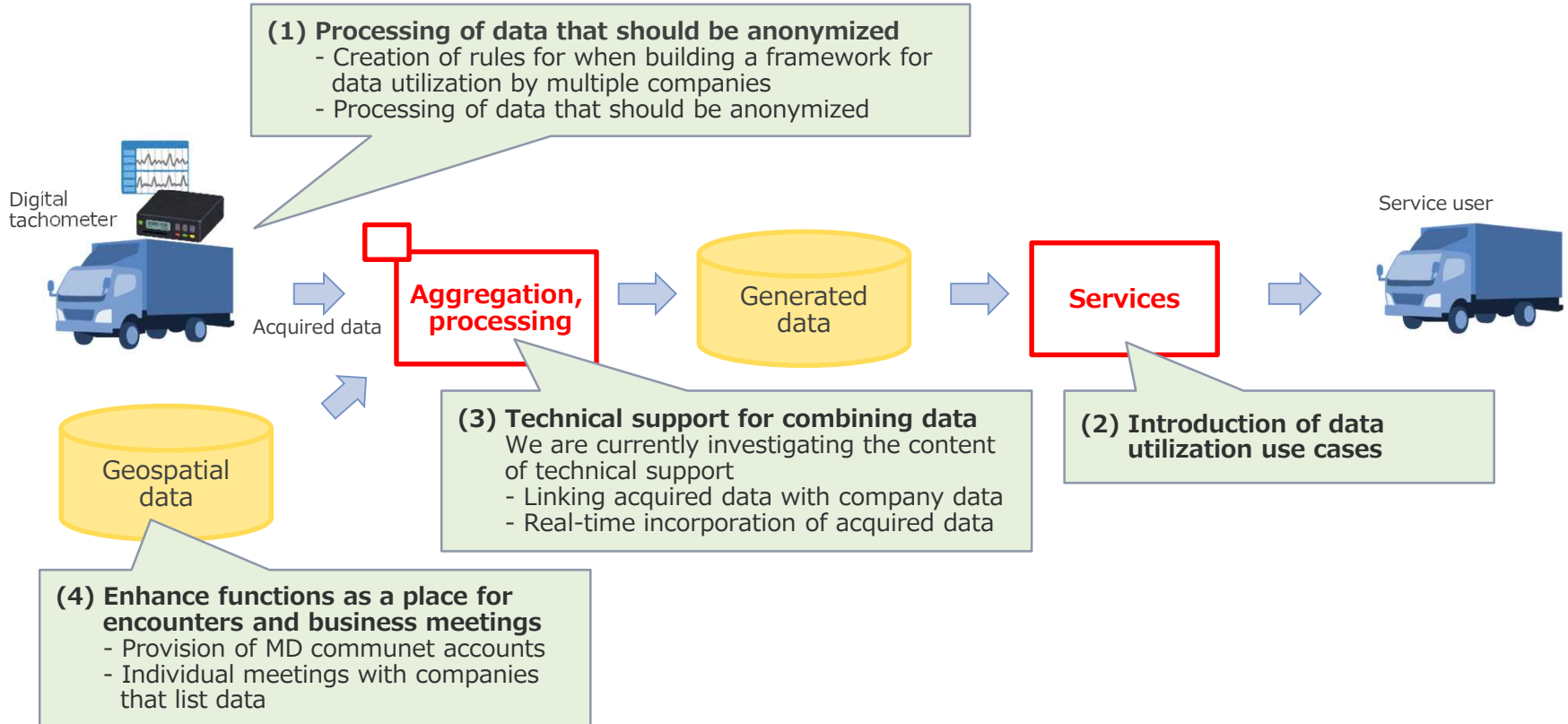
- ① Arrangement of data to be kept secret**
Supporting the establishment of rules for establishing a framework for data utilization and the arrangement of data to be kept secret
- ② Introduction of data utilization use cases**
Introduce use cases for data utilization developed in this project and promote initiatives to have them used in service planning
- ③ Technical support for data matching**
Consider supporting technological elements such as data linking and real-time linkage that are necessary for combining and utilizing multiple data
- ④ Strengthen functions as a place for meeting and business negotiations**
By registering an account on MD communit, members can register and view data and register needs and seeds. Coordination of individual meetings among member companies

1.3 Verification Results (3): Materialization of the MD communit support menu

Status of investigations into the MD communit service menu

- Based on the service creation scheme, we are reviewing a support program that covers the following:
 - 1) The generation of probe data
 - 2) The generation of valuable data by combining and processing data acquired from on-board probes with other geospatial data
 - 3) The utilization of the above generated data in services

Investigations into the MD communit Service Menu

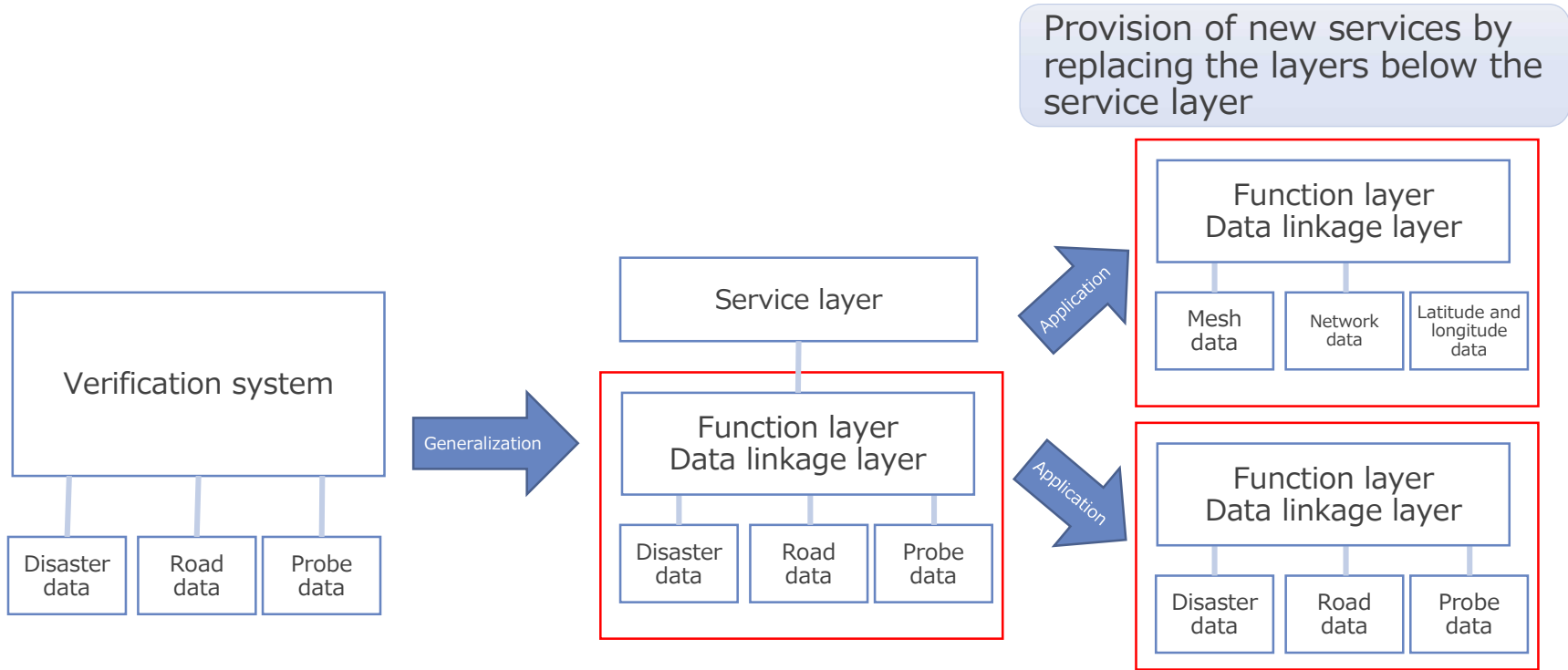


1.3 Verification Results (3): Materialization of the MD communit support menu

Materialization of the support menu, design template

- During investigations into the MD communit service menu, we created a design template for the support menu based on the hypothesis that we can expect various services to be created by combining multiple types of geospatial data.
- We worked on a design template to lower the threshold for service developers as technical expertise is necessary to handle geospatial data with different formats at the same time.

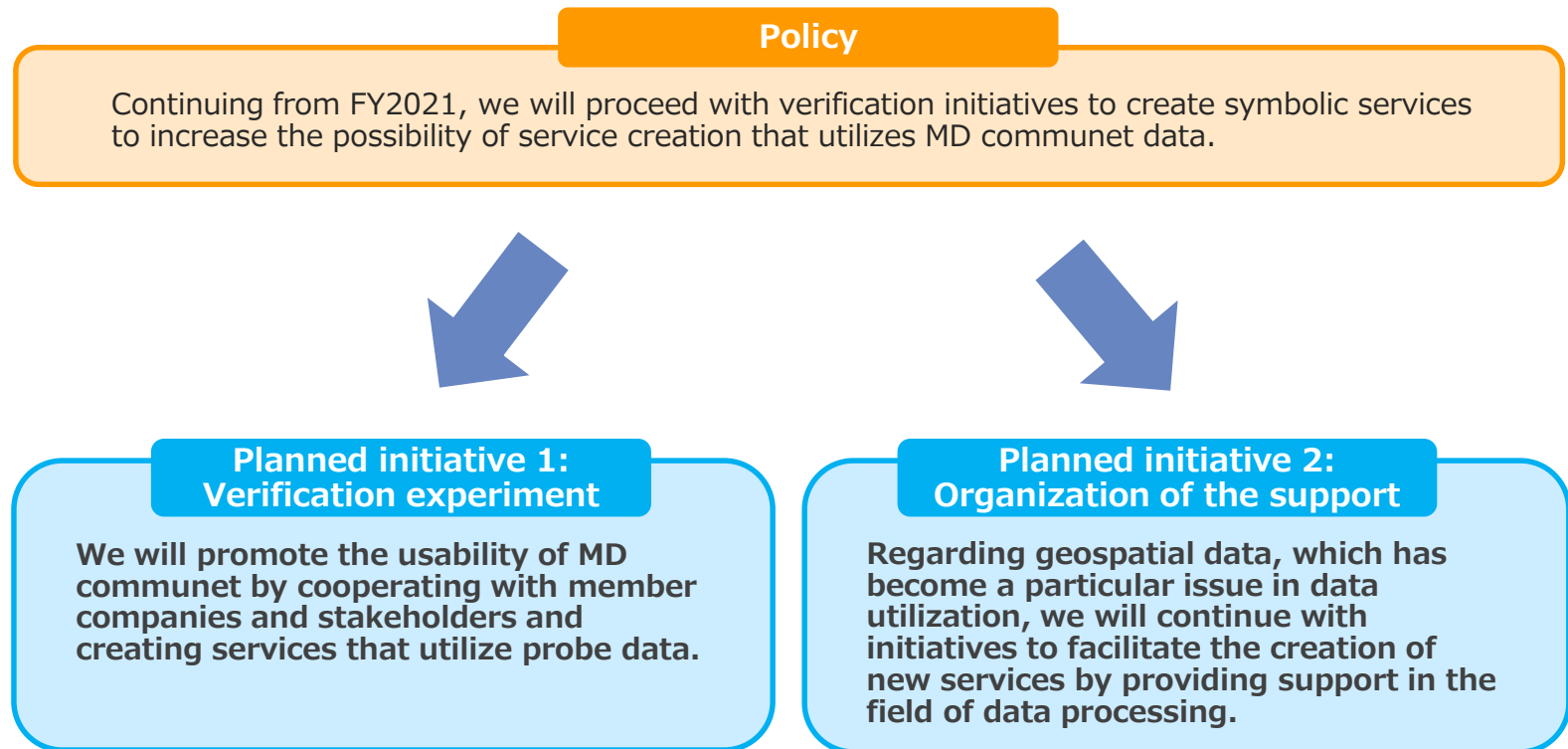
Design template for the MD communit support menu (Draft)



1.3 Results (3) Embodiment of the MD communit support menu Action Policy for the Next Fiscal Year

- In order to promote the use of MD communit data, the demonstration will be promoted in the scheme developed this year, and examples of its use will be posted. In addition, we will complete the MD communit support menu that has been put into practice this year.

Initiative policy for FY2022



2. Research to organize and develop geographic data and traffic data in urban areas for coordination of transportation and logistics services

2.1 the 2nd Kyoto Raku Mobi Contest

2.1 Overview of initiatives for the 2nd Kyoto Raku Mobi Contest Orientation of initiatives (Overview diagram)

- The diagram below shows the initiatives in consideration of their positioning in the project. In terms of the orientation of initiatives, we focus on the four points below.
 - (1) Encouraging contest participants to use MD communit
 - (2) Collection and provision of traffic information
 - (3) Promoting data providers and participants to use MD communit
 - (4) Framework for continued development

Orientation of initiatives for the 2nd Kyoto Raku Mobi Contest (Overview diagram)

Purpose of constructing an architecture for SIP automated driving

For SIP automated driving, to realize an automated driving society, we are working on generating and distributing **traffic environment information** essential for automated driving. We will construct **an ecosystem to promote matching between those who own information and those who use it** so that a wide range of users can use traffic environment information for various services.

Development orientation of the portal site (MD communit)

Entity responsible: NTT Data

By the end of SIP phase two (FY2022), **we will develop a portal site that can conduct searching and matching of traffic environment information (MD communit = MD communit)** and proceed with its application

(1) Develop functions such as data search/matching.

(2) Collect traffic environment information to be utilized with MD communit and expand the amount of data and APIs provided.

(3) Conduct wide-ranging dissemination promotion of MD communit towards related parties.

(4) Develop a sustainable MD communit operation scheme even after the conclusion of SIP.

Orientation of continued initiatives in Kyoto (contests, etc.)

Entity responsible: Mitsubishi Research Institute

With solving regional issues using traffic environment information as one example, through a contest that promotes data utilization using MD communit, we will develop an **ecosystem for the provision and utilization of data in specific regions**.

(In addition to the initiatives of the first contest, **we will promote exchange between data providers, MD communit, and participants, and we will aim to involve organizations in Kyoto.**)

(1) Have participants use MD communit and provide accurate data.

(2) Collect traffic environment information in Kyoto, and provide this on MD communit.

(3) Encourage Kyoto data providers, participants, and local authorities to use MD communit.

(4) Aim to develop a data provision and utilization scheme that is sustainable even after the conclusion of SIP.

- MD communit utilization support for KYOTO Raku Mobi contest participants

- Data provided from the 1st contest
- GTFS-RT (including demo data)
- SIP automated driving logistics data, etc.

- Continuous provision of traffic environment information
- Participation by local government, etc.
- Expand the entities that utilize MD communit

2.1 Outcomes of the review into the 2nd Kyoto Raku Mobi Contest

Achievements and challenges of the 1st contest and objective of the 2nd contest

- In light of the achievements and challenges of the Kyoto Raku Mobi Contest (hereinafter, Contest) held from FY2019 to FY2020, regarding tasks for FY2021, we will organize the content of the 2nd Contest, organize requirements related to the provided data and APIs and the portal site, conduct requests, and negotiations, and coordination to stakeholders. This will be implemented to formulate the implementation plan of the 2nd Contest and prepare for implementation and operation.

Establishing challenges and objectives for the 2nd Kyoto Raku Mobi Contest

Main achievements of the 1st Contest	<ul style="list-style-type: none"> ● A framework targeting a specific region (Kyoto) was created and trialed to collect, process, and provide transportation information (data related to transportation, logistics, and facilities). ● We were able to trial and confirm a sequence where companies, universities, and individuals using the provided transportation information, led to the investigation and development of new applications and services. ● We were able to identify problems that may arise in the above process and review our response policies. ● By adopting a contest format, we communicated initiatives regarding transportation information to many different sectors.
Main challenges of the 1st Contest	<ul style="list-style-type: none"> ● We used a temporary/trial website and system for contest promotion, recruitment, and data provision. ● Mainly in the transportation field, data collection and processing were carried out by the secretariat rather than the transportation operators themselves. ● The data provided was almost all static, with only part of the data being dynamic. ● The secretariat in Tokyo mainly organized the operation system of the contest, and we did not sufficiently involve entities in Kyoto.
Main objectives of the 2nd Contest	<ul style="list-style-type: none"> ● Conduct contest promotion, recruitment, and data provision on the transportation information portal site, MD communit. ● To implement initiatives that lead to the continuous development and provision of data by transportation operators, mainly regarding the data in the standard format for the transportation industry (GFTS-JP). ● Mainly in the transportation industry, work towards the creation, provision, and trial use of dynamic data (GTFS-RT, etc.) ● To try to involve local entities as much as possible in operations and make this the start of continued project development into the future. ● To create a model for horizontal development to other regions by forming a series of data collection, processing, and provision packages in a specific region (Kyoto).

2.1 Orientation of Initiatives for the 2nd Kyoto Raku Mobi Contest Implementation items based on the orientation of initiatives

- We organized the correspondence between the orientation of the four initiatives shown on the previous page with the implementation items for this project (for FY2021)

Orientation of initiatives for the 2nd Kyoto Raku Mobi Contest (Correspondence with FY2021 implementation items)

Implementation Items		Orientation of initiatives			
		(1) Have participants use MD communit and provide accurate data.	(2) Collect traffic environment information in Kyoto, and provide this on MD communit.	(3) Encourage Kyoto data providers, participants, and local authorities to use MD communit.	(4) Aim to develop a data provision and utilization scheme that is sustainable even after the conclusion of SIP.
FY2021					
1. Formulation of the contest implementation plan	(1) Organization of content to be implemented (draft)	<ul style="list-style-type: none"> ● Provision of data under the assumption of MD communit utilization ● Setting a theme that will contribute to the solution of local issues 	<ul style="list-style-type: none"> ● Appeal to data holders in Kyoto to list data on MD communit 	<ul style="list-style-type: none"> ● Appeal to related organizations in Kyoto to use MD communit 	<ul style="list-style-type: none"> ● Discuss with organizations in Kyoto about continuous data frameworks
	(2) Requests, negotiation, and coordination regarding data and APIs	—	<ul style="list-style-type: none"> ● Requests, negotiation, and coordination that assumes data will be listed on MD communit 	—	<ul style="list-style-type: none"> ● Post-Contest negotiations for continued data provision
	(3) Investigation of the functions/operational requirements of the portal site	<ul style="list-style-type: none"> ● Measures to increase motivation for participation/ utilization while using MD communit 	<ul style="list-style-type: none"> ● Data provision system that is correctly integrated with MD communit 	—	<ul style="list-style-type: none"> ● Investigation of frameworks that will continue to utilize MD communit after the contest ends
	(4) Formulation of implementation plans	(same as above)	(same as above)	(same as above)	(same as above)
2. Contest Hosting/ Operation (FY2021)	(1) Procurement of the data and API provided at the contest (FY2021)	(Executed based on the implementation plan)	(Executed based on the implementation plan)	(Executed based on the implementation plan)	(Executed based on the implementation plan)
	(2) Contest implementation (FY2021)	<ul style="list-style-type: none"> ● Appeal to participants through press releases, events, etc. 	<ul style="list-style-type: none"> ● Adjusted according to the wishes and circumstances of data holders 	<ul style="list-style-type: none"> ● Communication focused on related organizations in Kyoto 	<ul style="list-style-type: none"> ● Continued communication with organizations in Kyoto
3. Reports at conferences, etc.		—	—	—	—

2.1 Orientation of Initiatives for the 2nd Kyoto Raku Mobi Contest Implementation items based on the orientation of initiatives

- We organized the correspondence between the orientation of the four initiatives shown on the previous page with the implementation items for this project (for FY2022)

Orientation of initiatives for the 2nd Kyoto Raku Mobi Contest (Correspondence with FY2022 implementation items)

Implementation Items		Orientation of initiatives			
		(1) Have participants use MD communit and provide accurate data.	(2) Collect traffic environment information in Kyoto, and provide this on MD communit.	(3) Encourage Kyoto data providers, participants, and local authorities to use MD communit.	(4) Aim to develop a data provision and utilization scheme that is sustainable even after the conclusion of SIP.
FY2022 (planned)					
1. Contest Hosting/ Operation (FY2022)	(1) Procurement of the data and API provided at the contest (FY2022)	(Executed based on the implementation plan)	(Executed based on the implementation plan)	(Executed based on the implementation plan)	(Executed based on the implementation plan)
	(2) Contest implementation (FY2022)	<ul style="list-style-type: none"> ● Appeal to participants through press releases, events, etc. 	<ul style="list-style-type: none"> ● Adjusted according to the wishes and circumstances of data holders 	<ul style="list-style-type: none"> ● Communication focused on related organizations in Kyoto 	<ul style="list-style-type: none"> ● Continued communication with organizations in Kyoto
2. Contest outcomes and organization of issues		<ul style="list-style-type: none"> ● Gather contests participants' assessments, opinions, and suggestions regarding the outcomes and issues 	<ul style="list-style-type: none"> ● Gather stakeholders' assessments, opinions, and suggestions regarding the outcomes and issues 	<ul style="list-style-type: none"> ● Gather organizations in Kyoto's assessments, opinions, and suggestions regarding the outcomes and issues 	<ul style="list-style-type: none"> ● Discussion and investigations into developing continuous frameworks in light of contest outcomes
3. Investigations into the promotion of data exchange and utilization using the portal site		<ul style="list-style-type: none"> ● Investigate the state and required functions of data provision that uses MD communit in light of the opinions of contest participants 	<ul style="list-style-type: none"> ● Investigate the state of data provision that uses MD communit in light of the opinions of stakeholders 	<ul style="list-style-type: none"> ● Organize the requirements demanded of MD communit from the perspective of regional data provision and utilization 	<ul style="list-style-type: none"> ● Investigate the state of continuous data provision and utilization that uses MD communit
4. Reports at conferences, etc.		—	—	—	—

2.1 Orientation of Initiatives for the 2nd Kyoto Raku Mobi Contest

Implementation items for the 2nd Kyoto Raku Mobi Contest (FY2021)

- We set the implementation items in light of the objective on the previous page and implemented the items In FY2021, we mostly implemented planning and preparation.

FY2021 Implementation items for the Kyoto Raku Mobi Contest

1. Formulation of the contest implementation plan	(1) Organization of content to be implemented (draft)	<ul style="list-style-type: none"> ● We will organize drafts including the data and API provided to participants at the contest (including editing and processing methods, etc.), contest implementation structure, implementation date, PR, holding pre-events, and the application, selection, and commendation methods. ● For the contest implementation structure, we planned so for the incorporation of local issues and needs and framework development for continued data exchange and utilization in the future. We are mindful to include stakeholders related to Kyoto.
	(2) Requests, negotiation, and coordination regarding data and APIs	<ul style="list-style-type: none"> ● We will conduct requests, negotiations, and coordination with the entities that possess the data and API in the above draft. This will be conducted regarding the possibility of providing or selling data and APIs to the contest, the possibility of listing catalog data or sample data on the portal site (MD communit), the specific specification of data and APIs, provision conditions, and the costs related to provision or sale. ● Regarding transport operators, we will investigate GTFIS-JP frameworks for the scale of each company on the presumption that they will convert their data to GTFIS-JP and provide it to the contest participants.
	(3) Investigation of the functions/operational requirements of the portal site	<ul style="list-style-type: none"> ● For the implementation of the contest (PR, pre-event, recruitment, provision of data and APIs, submission of works, judging, commendation, etc.), we will conduct review, investigations, and coordination regarding the requirements demanded by the portal site (MD communit). This will be done from the perspective of system functions (search for metadata and sample data related to data and APIs, provision of main-body data), operations (listing of contents, continuous updates, etc.), and the transfer of content created in the 1st contest.
	(4) Formulation of implementation plans	<ul style="list-style-type: none"> ● We will formulate the contest implementation plan after compiling the results of the above investigation and coordination.
2. Contest Hosting/ Operation (FY2021)	(1) Procurement of the data and API provided at the contest (FY2021)	<ul style="list-style-type: none"> ● Based on the implementation plan, we will procure the data and API to be provided to contest participants from the data holder and make calibrations so that it can be used by contest participants in application planning, investigation, and development.
	(2) Contest implementation (FY2021)	<ul style="list-style-type: none"> ● Based on the implementation plan, we will prepare for the implementation and operation of the contest (application, selection, commendation) conducted by the secretariat. ● For the implementation and operation of the contest, conduct sufficient discussion and coordination with the operating entity of the portal site so that information related to the contest is provided through the portal site.
3. Reports at conferences, etc.		<ul style="list-style-type: none"> ● We will report on the status of investigations and project implementation to the committee and working group of the Strategic Innovation Program (SIP) Phase II/automated Driving (System/Service Enhancement).

2.1 Orientation of Initiatives for the 2nd Kyoto Raku Mobi Contest

Implementation items for the 2nd Kyoto Raku Mobi Contest (FY2022)

- In FY2022, we will summarize the implementation, operation achievements, and challenges of the contest, and we plan to implement investigations into developments after the contest ends.

FY2022 Implementation items for the Kyoto Raku Mobi Contest

1. Contest Hosting/ Operation (FY2022)	(1) Procurement of the data and API provided at the contest (FY2022)	<ul style="list-style-type: none"> ● Based on the implementation plan, we will procure the data and API to be provided to contest participants from the data holder and make calibrations so that it can be used by contest participants in application planning, investigation, and development.
	(2) Contest implementation (FY2022)	<ul style="list-style-type: none"> ● Based on the implementation plan, we will prepare for the implementation and operation of the contest (application, selection, commendation) conducted by the secretariat. ● For the implementation and operation of the contest, conduct sufficient discussion and coordination with the operating entity of the portal site so that information related to the contest is provided through the portal site.
2. Contest outcomes and organization of issues		<ul style="list-style-type: none"> ● Through post-contest consultations with contest and operation participants, we will identify and organize the achievements of the contest and challenges related to portal site and contest operation. ● We will outsource the development of the winning application of the application development division to make it into an application that can withstand practical use.
3. Investigations into the promotion of data exchange and utilization using the portal site		<ul style="list-style-type: none"> ● In light of indications we gained by holding the contest, we will identify and organize know-how and suggestions regarding the below items that make use of the portal site: Transportation data distribution (transfer, editing, processing, provision), utilization, and matching measures for needs and seeds (community creation, holding of events such as contests).
4. Reports at conferences, etc.		<ul style="list-style-type: none"> ● We will report on the status of investigations and project implementation to the committee and working group of the Strategic Innovation Program (SIP) Phase II/automated Driving (System/Service Enhancement).

2.1 Outcomes of the review into the 2nd Kyoto Raku Mobi Contest

Orientation of theme setting related to 2nd Kyoto Raku Mobi Contest

- In the 1st Contest, we primarily focused on ToC, and set the central theme as the solution of issues related to transportation for tourism and living in Kyoto. In the 2nd Contest, we will add the solution to issues related to ToB (logistics operators) and ToB/ToG (transportation operators and local government). We will work on this under the policy of soliciting wide-ranging ideas and applications.

Orientation of theme setting in the 2nd Contest

Contest participants can apply to either the **“App Development Division”** or the **“App Idea Division.”** Participants select one theme or more from the below (social issues), materialize the issues for the theme, and propose an app to solve the issue. (“App” is not limited to smartphone applications and can also include web, system, or other applications.)

Themes (social issues) (examples)	[App Development Division]	[App Idea Division]
<p>[ToC] Solution of transportation/logistics issues faced by <u>residents and tourists</u></p>	<p>To develop an app that assumes an end-user (tourists, residents) and will solve tourism, transportation, and logistics issues.</p> <ul style="list-style-type: none"> ✓ (E.g.) An app that uses real-time train and bus information to assist residents with the use of transportation ✓ (E.g.) In light of the COVID-19 pandemic, an app that support tourists with travel plans that take into account congestion 	
<p>[ToB] Solution of <u>logistic operator’s</u> business issues</p>	<p>To propose an app that reduces the burden of issues that occur in the business of a logistics operator.</p> <ul style="list-style-type: none"> ✓ (E.g.) An app that supports the work of truck drivers by using truck probe information and congestion information, etc. 	
<p>[ToB/ToG] Solving the business issues of <u>transportation operators and local government</u>, and promoting the use of data</p>	<p>To propose an app that reduces the burden of issues in the business of entities related to transportation or tourism (transportation operator, local government, etc.).</p> <ul style="list-style-type: none"> ✓ (E.g.) An app that supports transport operators with organizing and transmitting their data (support for organizing and transmitting GTFS) ✓ (E.g.) An app that uses data analysis and utilization to support the drafting of transportation policies for local government, etc. 	

Note: We are currently reviewing the exact content of the themes

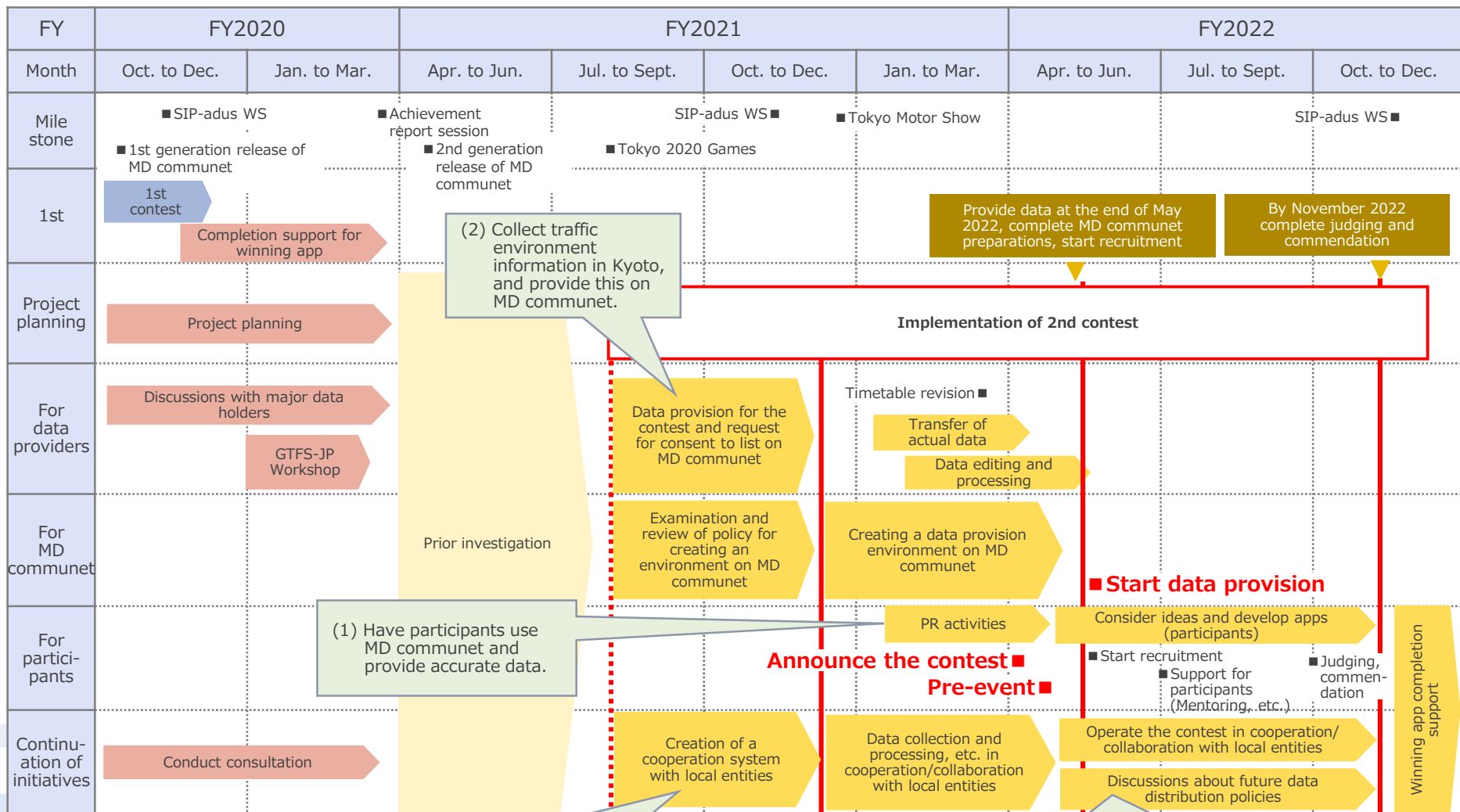
Each participant materializes the issues for the theme they choose and proposes an app to solve these issues

2.1 Outcomes of the review into the 2nd Kyoto Raku Mobi Contest

Implementation Schedule for the 2nd Kyoto Raku Mobi Contest

- As a major milestone, we plan to announce the contest and hold a pre-event in April 2022, and we will start providing data in May

Implementation Schedule for the 2nd Contest



(3) Encourage Kyoto data providers, participants, and local authorities to use MD communit.

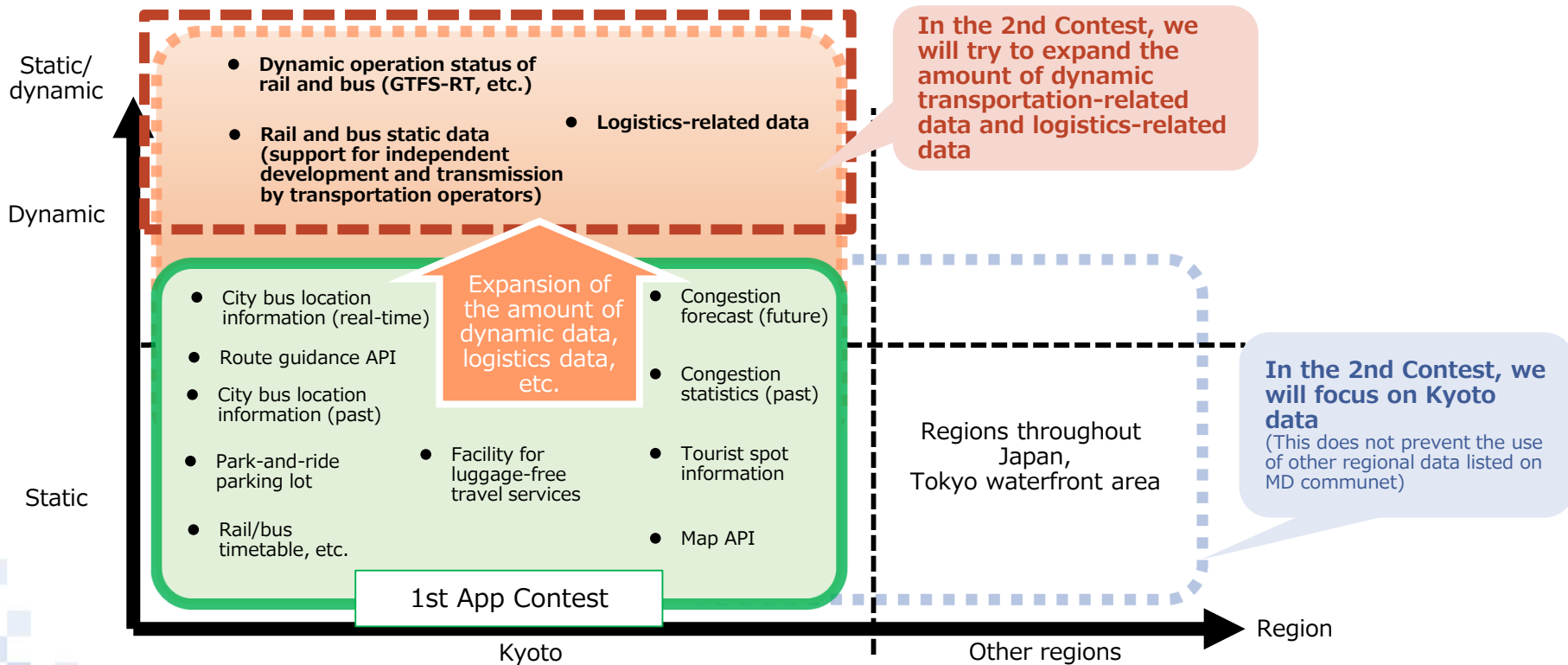
(4) Aim to develop a data provision and utilization scheme that is sustainable even after the conclusion of SIP.

2.1 Outcomes of the review into the 2nd Kyoto Raku Mobi Contest

Expanding the amount of provided data for the 2nd Kyoto Raku Mobi Contest

- We will promote the use of a wide range of data in addition to data provided by the secretariat as the orientation for expansion of the amount of data provided for the 2nd Contest.
- Also, we predict that we will expand the amount of dynamic rail and bus data and logistics-related data provided by the secretariat
- We will support initiatives of traffic operators for independent development and transmission of the static rail and bus information, which was provided in the 1st Contest.

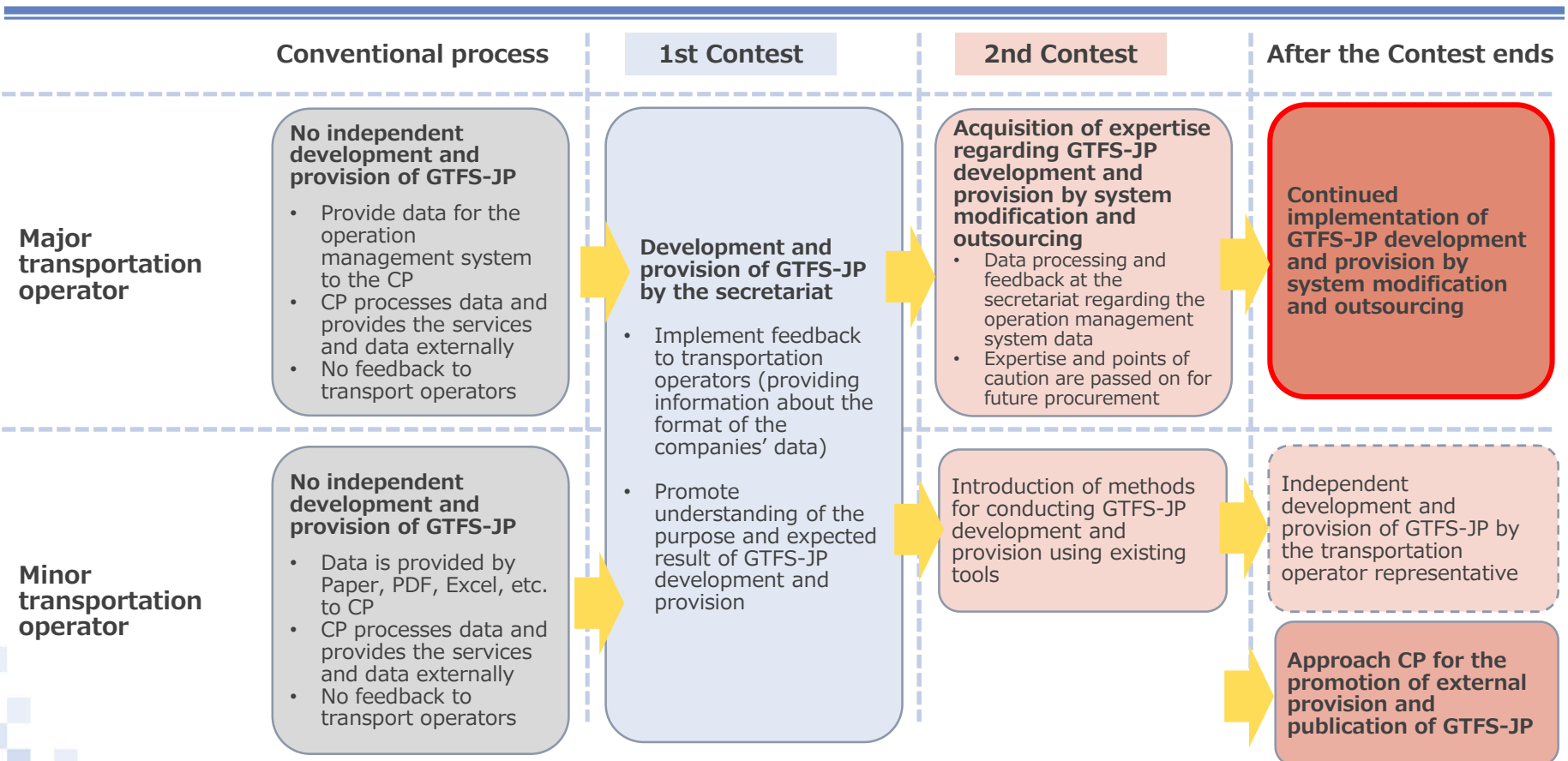
Orientation of the expansion of the amount of provided data in the 2nd Contest



2.1 Outcomes of the review into the 2nd Kyoto Raku Mobi Contest Roadmap for GTFS-JP data organization and provision through the involvement of transportation operators (Draft)

- The project is designed to promote standardization, development, and upgrading of traffic data through the independent involvement of traffic operators. Specialist operators conventionally handle data organization and provision. However, in the 1st Contest, we explored the possibilities of development and provision by the secretariat. In the 2nd Contest, we want to expand the involvement of transportation operators. We envision a roadmap that will promote the development, updating, and provision of data through the independent involvement of transportation operators after the Contest ends.

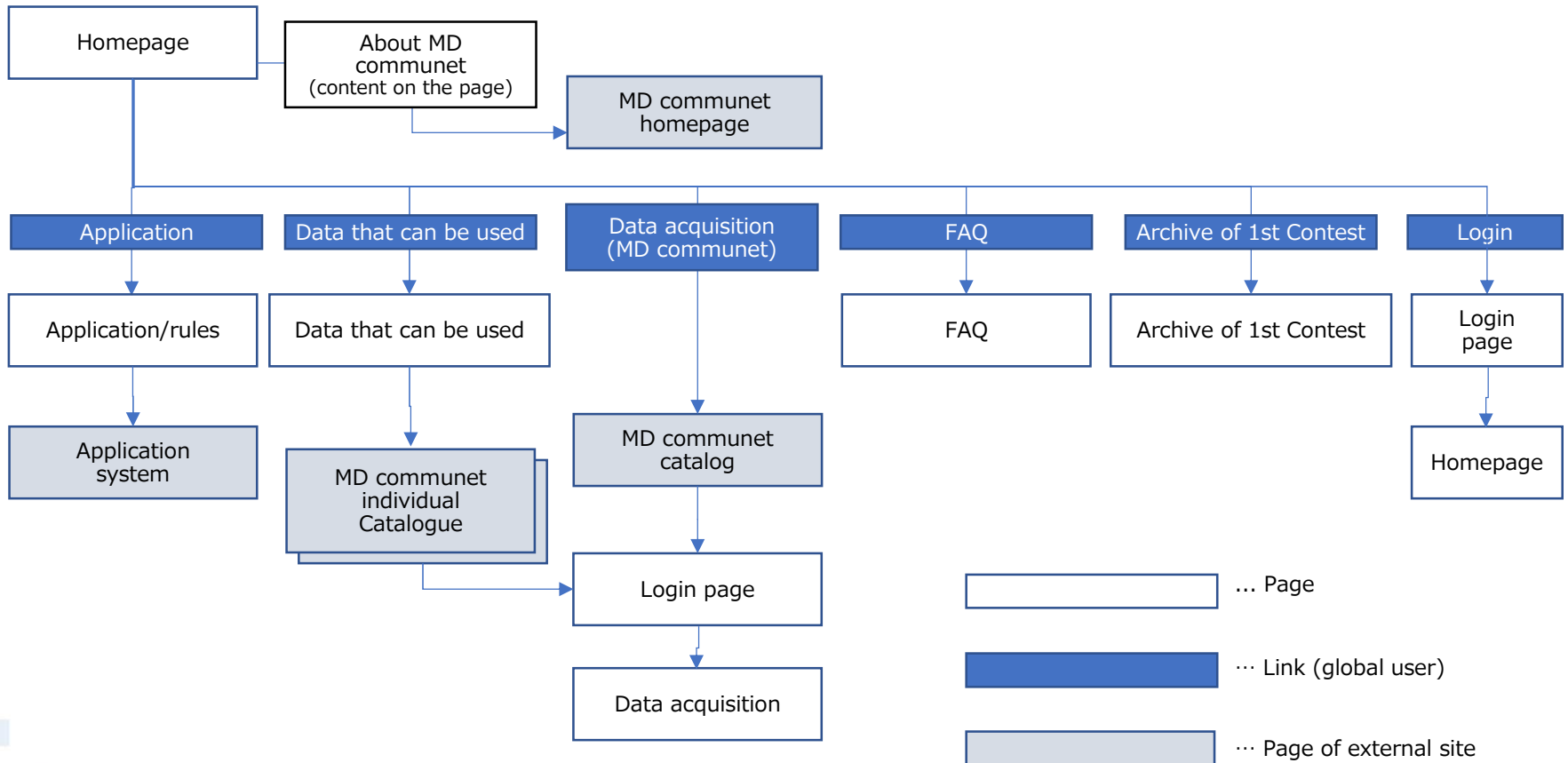
Roadmap for GTFS-JP data organization and provision (Draft)



2.1 Outcomes of the review into the 2nd Kyoto Raku Mobi Contest Preparation of the Contest Site for Holding the Contest

- While the maintaining its main approach of acting as a portal and catalog site, we examined and organized the site structure to achieve effortless navigation to Contest-related content or sites that provide data

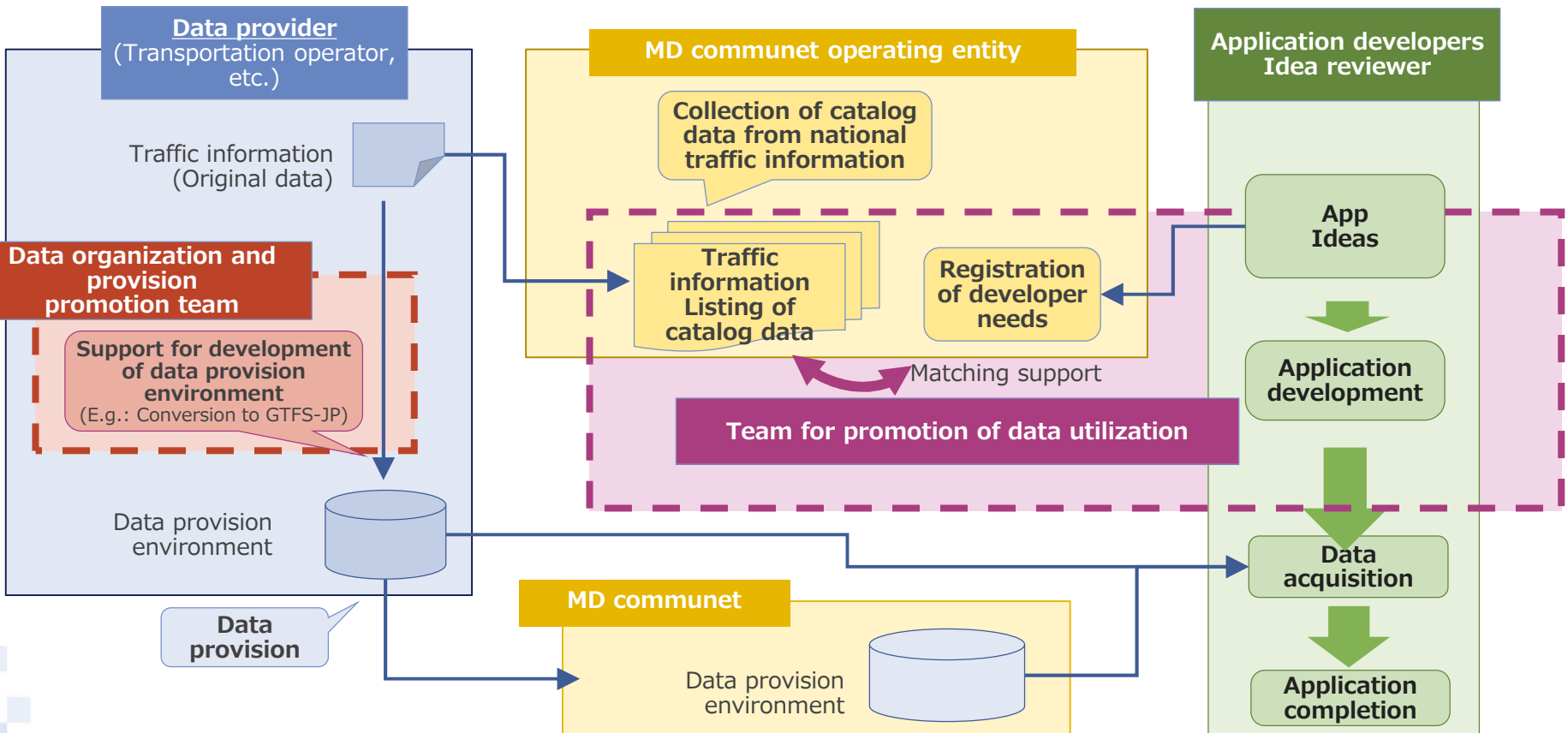
Proposed configuration for linking the contest site with MD communit



2.1 Outcomes of the review into the 2nd Kyoto Raku Mobi Contest Post-Contest local operation structure (Draft)

- We will hold discussions and investigations with local entities about creating a framework where the MD communit operating entity, local data provision entities, data utilizing entities, and local government can coordinate appropriately and share responsibilities while developing, updating, and distributing traffic information.

Results of the investigations into a possible proposal regarding the post-contest local management system



2.1 Outcomes of the review into the 2nd Kyoto Raku Mobi Contest Achievements of FY2021 initiatives and planned initiatives for FY2022

■ Below is an overview of FY2021 achievements and planned initiatives for FY2022

Overview of FY2021 achievements and planned initiatives for FY2022

Initiatives	FY2021 achievements	Planned initiatives for FY2022
Project planning	<ul style="list-style-type: none"> We planned and proposed the Contest as an opportunity to investigate the following matters for the 2nd Contest and also look ahead to post-Contest development: Data collection, processing, listing on the portal site, distribution, and utilization. 	<ul style="list-style-type: none"> — (Initiatives will be implemented in line with the project plan drafted in FY2021)
Initiatives for data providers (Data collection, listing on MD communit)	<ul style="list-style-type: none"> While following the initiatives of the 1st Contest, we promoted coordination and negotiation with stakeholders based on the policy of transport operators independently organizing their data and an expansion in the amount of logistics and dynamic data. Of the three sectors of transportation, logistics, and facilities, we came to a general agreement on transportation (static data), logistics, and facilities. 	<ul style="list-style-type: none"> We will construct a framework to acquire and process data obtained from requests and negotiations in FY2021, then provide the data by listing it on the portal site (around May 2022) We will decide on the specific targets and content of traffic data (dynamic data) and construct a distribution framework (around June 2022)
Initiatives for MD communit (System investigation/construction)	<ul style="list-style-type: none"> We implemented the design and construction of a dedicated Contest site linked to MD communit and a data provision system. 	<ul style="list-style-type: none"> Start operation of the dedicated Contest site (planned for April 2022) Start construction of the data provision system and data listing (May 2022)
Initiatives for participants (Contest hosting and operation)	<ul style="list-style-type: none"> We investigated the attributes of potential target participants (region, expertise, etc.) We reviewed PR strategy in discussions with related organizations regarding the primary target (entities in Kyoto, ICT-related entities). 	<ul style="list-style-type: none"> We will appeal to potential participants through press releases, e-mail newsletters, etc. We will promote initiatives to encourage participation and improve the quality of submission through pre-events (explanation sessions, ideathons) and continuous mentoring
Initiatives for the continuation and development of the project	<ul style="list-style-type: none"> We held discussions with Kyoto-based related organizations (transportation, tourism, ICT, etc.) about the possibilities and challenges of continued initiatives 	<ul style="list-style-type: none"> In light of the FY2021 discussions, we will evaluate and coordinate frameworks for post-Contest developments, systems, and the content of initiatives

3. FY2021 Achievements and Future Challenges

3. Business Results and Future Challenges (1/2)

- The following is a summary of the results of this fiscal year's projects and issues for the next fiscal year and beyond.

Results of this year's projects

development of a portal site

- The portal site was successfully opened to the public.
- Advanced recommendation functions such as recommendation and related keywords were implemented.
- Cooperation with popularization promotion HP such as addition of company profile was strengthened.

Promotion of portal sites

- Efforts were made to enhance the attractiveness of MD communit, including the expansion of unique data such as probe data and regulatory information, the solicitation of data providers and users, and the implementation of events.
- Improvement of HP for further popularization and development of MD communit was examined.
- MD communit examined the business model necessary for social implementation after FY 2023 and prepared a business model proposal.

Issue a

Issues for the future

development of a portal site

- We will continue to improve UI/UX that has been implemented since this fiscal year. In addition, linked data is implemented in order to strengthen the cooperation between data while enabling the acquisition of information as an input for providing information to draw users in order to strengthen the matching function.

Promotion of portal sites

- In order to further raise the awareness of MD communit with a view to its implementation in society, it is necessary to take an approach to quasi-potential customers through seminars linked with SIP public relations and the use of advertising media.
- In addition, although the drafting of the business model has been completed, the establishment of a system for social implementation will be completed in FY 2022. Therefore, the government will establish a system for social implementation while making plans including trials.

3. Business Results and Future Challenges (2/2)

(Continuation of the preceding paragraph)

Results of this year's projects

Issue a

demonstration promotion

- The creation of symbolic services using data posted on the MD communit was promoted, and efforts were made to materialize support menus that would further promote data utilization.

Issue c

KYOTO Raku Mobi contest

- Based on the results and issues of the first application contest, the planning and examination of the second application contest were made concrete and preparations were promoted.

Issues for the future

demonstration promotion

- In the next fiscal year, it is necessary to demonstrate the usefulness of data utilization as an actual service by using the service creation scheme examined this fiscal year and by demonstrating the examined use cases as actual services.
- When only publishing use cases, it is necessary to consider how multiple pieces of data are combined and how they are processed before actually using the data, and we think there is a hurdle there. In order to lower this hurdle, it is necessary to create and publish the design templates examined this year as examples.

KYOTO Raku Mobi contest

- When using portal sites, it is necessary to devise ways to provide users with immediate access to necessary data.
- Considering that the business period of SIP automated driving will end in FY 2022, it is necessary to examine the promotion of data distribution and utilization using portal sites in the future. The issues are as follows.
 - ✓ MD communit, General Policies of the Management System
 - ✓ MD communit, Regional Implementation of Data Utilization Using MD Communit
 - ✓ Development of data distribution environment in the region

3. Interaction with other SIP themes

- Coordination with other themes in this year's project is described below.

SIP theme of the link destination	trustee	Details of cooperation implemented this year
Research and development for the design and construction of an architecture for automated driving and driving support (previous subject d)	Nippon Koei Co., Ltd./Pacific Consultants Co., Ltd./Japan Highway New Industry Development Organization	<ul style="list-style-type: none">•Discuss standardization of information required for databases such as operation management (GTFS, etc.) and candidates for data to be posted on portals for practical use•Continued discussions to expand portal data in each target region to ensure connectivity with other means of transportation and use in other fields•Discussion and coordination on the use of Monobisuke in the KYOTO Raku Mobi contest
Investigation and demonstration for improving logistics efficiency based on architecture utilizing vehicle information such as probes	NX Research Institute, Inc.	<ul style="list-style-type: none">•Sharing logistics industry issues, demonstration content, and data on demonstration use•Discuss and extract issues related to data and use cases that are candidates for collaboration areas

This report documents the results of Cross-ministerial Strategic Innovation Promotion Program (SIP) 2nd Phase, Automated Driving for Universal Services (SIP-adus, NEDO management number: JPNP18012) that was implemented by the Cabinet Office and was served by the New Energy and Industrial Technology Development Organization (NEDO) as a secretariat.