

“The Second phase of Cross-ministerial Strategic Innovation  
Promotion Program (SIP)  
Automated Driving for Universal Services“  
Study of Overseas Trends, etc., in Preparation for International  
Collaboration Regarding Traffic Environment Information

FY2022 Results Report

Overview

Mitsubishi Research Institute

Feb. 2023

# Background and objectives

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## Background

The Cross-ministerial Strategic Innovation Promotion Program (SIP) Phase Two - Automated Driving (Expansion of Systems and Services) being conducted by the Cabinet Office is working to create systems for exploiting roadway traffic environment information, such as dynamic information in dynamic maps, with the aim of practically implementing advanced automated driving and achieving Society5.0. In order to **promote international standardization related to roadway traffic environment information**, it is **essential to consider project strategies that are harmonized with global efforts through coordination with organizations (such as the ISO) that promote international standardization and overseas organizations (such as the Open AutoDrive Forum (OADF)) that promote the industry standardization of high-accuracy 3D map information and roadway traffic environment information.**

## Objectives

SIP Phase 2 included initiatives whose purpose was the creation of systems for effectively utilizing traffic environment information. This study aims to appropriately reflect the results of those initiatives in international standards while harmonizing with overseas standards organizations. To do so, we **investigated domestic and overseas trends in the standardization of traffic environment information** and **deliberated together with related parties in Japan regarding information sharing and international standardization strategies.**

## 2. Overall schedule

- FY2019: A study of trends involving standardization, etc., was conducted from July to December, and basic materials were prepared for use in deliberations regarding international standardization strategies. Deliberation council meetings were held once every two or three months in an effort to produce a shared understanding of the direction to be taken by international standardization strategies.
- FY2020: Information regarding both de facto and de jure trends were collected through ISO/TC204, OADF, and other meetings. This information was shared with related parties in Japan through deliberation council meetings, and meeting participants deliberated regarding international standardization strategies based on the status of SIP program studies and international trends.
- FY2021 onward: Within the initiatives conducted as part of SIP Phase 2 Tokyo Waterfront City FOTs, etc., investigations were carried out based on international trends and standardization strategies were deliberated on.
- FY2022: As a final year of SIP Phase 2, summarized the research results and action items.

		FY2019				FY2020				FY2021				FY2022			
		1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
This study	1) Investigation and analysis of traffic environment information services and standards, etc., in Japan and overseas	Fact-finding investigation and analysis of traffic environment information services and standards, etc.				Trend identification and updating											
	2) Operation of council for deliberation on the formulation of international standardization strategies for traffic environment information in Japan and organization and summarization of council meeting results	Interim summary				Summary				Participation in OADF meeting				Participation in OADF meeting			
		Organization and summarization of deliberation results												Final summary			
Related trends	SIP initiatives	TF report		TF report			TF report	TF report									
	ISO/TC204																
	OADF																

### 3. Contents of this year's initiatives [1/2]

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#### **Basic approach**

- Delve more deeply into the implementation issues from FY2021 and follow up on the issues pointed out regarding the year-end report. With respect to the traffic environment information interfaces believed to be important in deliberating international standardization strategies, assess actual conditions through the use of these interfaces in the FOTs in the Tokyo Waterfront City area, etc.

#### **1. Study of international standard trends**

- We investigated measures carried out within this year's study, including looking at comments in the FY2021 year-end report of SIP Task Force on Transport Information Infrastructure/International Cooperation Working Group.

#### (1) Standardization trends involving the delivery of traffic environment information via V2N

- Summarize the findings of SIP and provide input to external parties (for ADASIS).
- Summarize Japan's stance on the traffic environment information distribution standard (for ADASIS).

#### (2) Trends involving data platforms/access points related to mobility

- Collect information from a perspective that will serve as a benchmark for the consideration of data-related measures being undertaken in the second phase of SIP, and provide input for each measure.

### 3. Contents of this year's initiatives [2/2]

#### 2. Holding of deliberation council meetings to deliberate on strategies

- Based on the results of the FY2021 trend investigation, etc., deliberations continued regarding the direction to be taken by international standardization strategies, etc., involving traffic environment information.

Session no.	Date (planned)	Agenda (proposed)
1st	October 2019	<ul style="list-style-type: none"> <li>• Position, objectives, and deliberation schedule of deliberation council</li> <li>• Interim report on the results of the study of standard trends</li> <li>• Points of dispute concerning international standardization</li> </ul>
2nd	December 2019	<ul style="list-style-type: none"> <li>• Report on the results of the study of standard trends</li> <li>• ISO discussion trends</li> <li>• Direction to take with regard to international standardization strategies</li> </ul>
3rd	June 2020	<ul style="list-style-type: none"> <li>• ISO discussion trends</li> <li>• Contents of ADASIS provisions and the standardization of interface specifications for traffic environment information</li> <li>• CRP deliberation status</li> </ul>
4th	October 2020	<ul style="list-style-type: none"> <li>• ISO discussion trends</li> <li>• Direction of deliberations with regard to interface specifications for traffic environment information #1</li> </ul>
5th	February 2021	<ul style="list-style-type: none"> <li>• ISO/OADF discussion trends</li> <li>• Summarization of direction to take with regard to international standardization strategies (FY2020)</li> </ul>
6th	October 2021	<ul style="list-style-type: none"> <li>• Review of initiatives up to and including last year</li> <li>• Deliberation of direction to take with regard to new items requiring standardization (1)</li> </ul>
7th	December 2021	<ul style="list-style-type: none"> <li>• Deliberation of direction to take with regard to new items requiring standardization (2)</li> <li>• Follow-up regarding roadway traffic environment information interfaces</li> </ul>
8th	February 2022	<ul style="list-style-type: none"> <li>• Summarization of direction to take with regard to international standardization strategies (FY2021)</li> </ul>
9th	January 2023	<ul style="list-style-type: none"> <li>• Closing the project</li> </ul>

# **1) Standardization trends involving the delivery of traffic environment information via V2N**

# Process of investigation of traffic environment information using V2N

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## Achievements in previous years

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- We listed standards (ISO, ETSI, and other de facto standards) related to the distribution of traffic environment information at the center-to-vehicle and center-to-center interfaces associated with V2N, and organized an overview of each standard in individual sheets.
- The study group discussed whether there are any items that cannot be handled by existing standards or that require immediate standardization activities by Japan in order to utilize V2N information for automatic driving. It was concluded that there were no items that require immediate standardization activities by Japan.
- On the other hand, with the knowledge that ADASIS, the de facto standard in Europe, has been utilized in the Tokyo waterfront area demonstration and a certain amount of data has been collected, we found it necessary to disseminate the results and findings externally. We conducted interviews with TomTom to investigate the status of ADASIS utilization and stance in Europe.

## Items to be addressed in the current fiscal year

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- At the Tokyo Waterfront Area Demonstration Consortium, we obtained knowledge on how to interpret the ADASIS specifications and the usability of ADASIS. These will be compiled into an English paper as a result of SIP, and individual opportunities will be set up with ADASIS to input the results. At the same time, we will confirm milestones for future ADASIS dissemination strategies and future specification updates, etc.
- At the same time, we will hold interviews with participants (OEMs, etc.) in the Tokyo Waterfront Area Demonstration Consortium in order to understand the trend and diffusion status of ADASIS in Europe and to organize Japan's stance on ADASIS.

## Achievements in the current fiscal year

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- As the second phase of SIP, the knowledge for ADASIS was input to ADASIS.
- Based on the roadmap for the future dissemination of ADASIS and the stance taken in Europe, we have also summarized our views on the areas that should be standardized and areas that should be competitive with respect to the distribution of traffic environment information via V2N.

# Status in the current fiscal year (Exchange of opinions)

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## ■ Status of exchange of opinions

- Exchange of opinions
  - Partner: Jean-Charles Pandazis (ERTICO)
  - Implementation date: September 22, 2023 (Thursday)
  - Location and method: Individual meetings to be held during the ITS World Congress
- **Future schedule for ADASIS version updates**
  - **ADASISv3.3**
    - Internal verification scheduled to begin in December 2022
    - Information provision will be based on destination setting
    - Implementation will be conducted over Ethernet instead of Canbus
  - **ADASISv3.4**
    - Various data (sensor data, signal data) will be overlaid on the main path on the route.
    - V3.3 and V3.4 will work in parallel, not streamlined
- **ADASIS utilization by European OEMs**
  - **Status of ADASISv2 utilization**
    - Mercedes (Class A), Daimler Trucks, and SCANIA have adopted it.
  - **ADASISv3 utilization**
    - Mercedes may adopt it, but the situation is undecided.
    - Bosch, Continental, BMW, etc. may also adopt it.
    - White Paper is being written in support of V3



# Summary of the Survey and Future Prospects

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## ■ Summary of the survey

- We conducted interviews with ADASIS officials to obtain information on the next release schedule, etc.
- In addition, we found that the number of companies adopting ADASIS in Europe is still small, with limited adoption in passenger cars, and that adoption is spreading to commercial vehicles as well.
- We also conducted interviews with people involved in mobility data. We understood that the growing momentum of open data has led to a growing interest in the discussion of collaboration between vehicles and centers (which is the scope of TISA and SENSORIS).

## ■ Future Prospects

- As for Japan, while taking into account the future release trend of ADASIS at the very least, it may be possible to watch TISA and SENSORIS in parallel, which may have more influence on the discussion of standardization and data utilization.

## **2) Trends involving data platforms /access points related to mobility**

# Trends in mobility-related data platforms/access points

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## Achievements in previous years

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- We collected basic information on national access points in Europe based on EU regulations. (Europe as a whole and the situation in individual EU member states: Germany, France, Sweden, etc.)

## Items to be addressed in the current fiscal year

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- We collected information on the actual situation in Europe through global benchmarking with MD communit@, which is being undertaken in the second phase of SIP in order to gather information on the status of probe information utilization, and collected case studies focusing on the current issues in these efforts.
- We also obtained information on related areas, such as probe data distribution and other initiatives being promoted by the private sector.

## Achievements in the current fiscal year

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- In addition to Achievements to date in previous years, we have updated the trends of Mobilithek and NAPCORE, which have moved in the current fiscal year, and collected detailed information through interviews with Mobilithek officials.

# Organization of the background of Open Data promotion such as Industrie 4.0, GAIA-X, etc.

- Industrie 4.0 is a policy to integrate advanced technology and existing industries for the purpose of developing industrial technology in Germany.

## 【Description on Industrie4.0】

Overview	<ul style="list-style-type: none"><li>■ <u>Industrie 4.0=A fourth industrial revolution based on cyber-physical systems (CPS) and high-tech strategy measures</u><ul style="list-style-type: none"><li>• CPS=Sensing, networking, cloud computing, AI, and other technologies</li></ul></li><li>■ Advantage of Industrie 4.0: Factory automation/improved productivity through use of collected data/optimization of operations by AI = realization of smart factory</li></ul>
Objective and background	<ul style="list-style-type: none"><li>■ The High Tech Strategy is a proposal for the German government to invest in a program to study the development of industrial technology (High Tech Strategy 2020) in order to maintain Germany's long-term competitiveness.<ul style="list-style-type: none"><li>✓ Research budget is 400 million euros</li><li>✓ The working group consists of 16 companies, 10 research institutes, 2 labor unions, and 4 industry associations.</li><li>✓ It is conducted by Dr. Siegfried Diess of Bosch and Prof. Dr. Henning Kagerman of acatech (German National Academy of Science and Technology)</li></ul></li></ul>
Features	<ul style="list-style-type: none"><li>■ Interoperability: Connecting machines, devices, sensors, and other equipment with humans for communication related to the production process</li><li>■ Transparency of information: Building a virtual model with the collected data and visualizing the data</li><li>■ Technical assistance: Providing support for data collection using devices, sensors, etc.</li><li>■ Distributed decision making: Making decision-making in the production process as autonomous as possible using CPS</li></ul>

Source) AMS Controls, <https://www.amscontrols.com/kb/roll-forming-and-industry-4-0/>, (2022/9/30 checked)

Source) NTT, <https://www.ntt.com/business/services/management/operations-management/global-management-one/column/industry-4-0.html>, (2022/9/30 checked)

# Organization of the background of Open Data promotion such as Industrie 4.0, GAIA-X, etc.

- GAIA-X is launched as a project to establish a unique European data infrastructure for the development of a European digital economic zone.

## 【Description on GAIA-X】

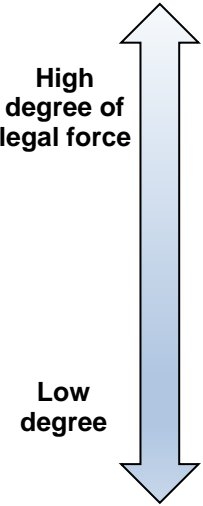
<b>Overview</b>	<ul style="list-style-type: none"><li>■ <u>GAIA-X = European Integrated Infrastructure Project (officially launched in June 2020)</u><ul style="list-style-type: none"><li>• It is a data infrastructure unique to Europe</li></ul></li></ul>
<b>Objective and background</b>	<ul style="list-style-type: none"><li>■ Platforms such as GAF A in the U.S. and Baidu/Alibaba in China are also expanding into Europe. As Europe, the goal is to build a unique European data infrastructure that does not rely on foreign companies.<ul style="list-style-type: none"><li>• The goal is to improve interoperability by integrating EU and international cloud services in a single system that facilitates data exchange between different industries.</li><li>• Germany is leading the way, with large and medium-sized companies such as Bosch, SAP, Deutsche Telekom, Deutsche Bank, Siemens, and Festo participating. Atos (a leading IT consulting firm) is also participating from France.</li></ul></li></ul>
<b>Features</b>	<p>The following principles will be the basis for the collection / utilization of telecommunication infrastructure and equipment, industrial and personal data, and data infrastructure in EU.</p> <ul style="list-style-type: none"><li>■ Data protection / Openness and transparency / Trust / Digital sovereignty and self-determination / Free market access and European value creation / Modularity and interoperability / Ease of use</li></ul>

# European mobility data platform trends

## Key points

- In 2017, the European Commission put into effect regulations concerning the collection and use of mobility-related data
- EU member nations are required to comply with these regulations

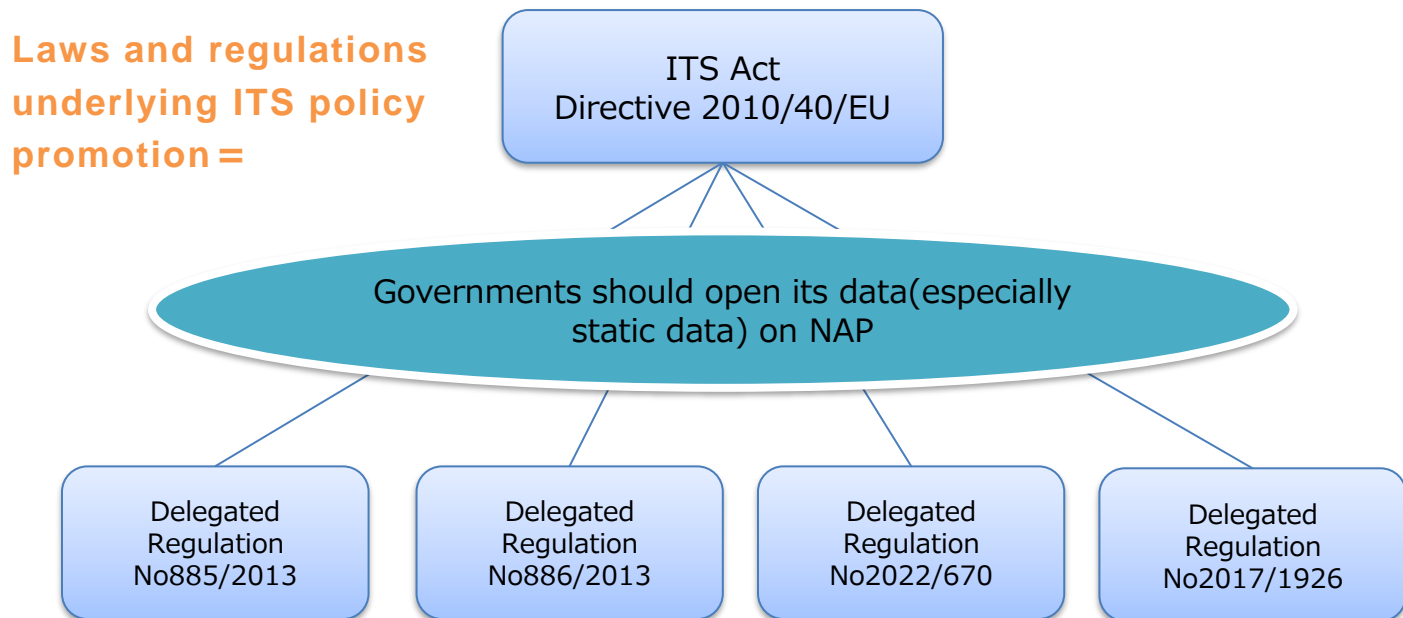
## <Ref.> What are EU "regulations"?

 <p>High degree of legal force</p> <p>Low degree</p>	(1) Regulation (REACH, etc.)	Regulations are formulated in order to unify laws and regulations among EU member nations. They are directly legally binding for the nations, and do not require individual laws to be created in each country in order to have legal force. They supersede all national laws.
	(2) Directive (RoHS, WEEE, ELV, etc.)	Directives are not directly applied. Instead, the objective within them only have legal force within individual countries when corresponding laws are made within individual countries.
	(3) Decision	Decisions directly apply to the implementation or abolition, etc., of specific activities by concerned parties (specific member nations, companies, and individuals).
	(4) Recommendation	Recommendations are expressions by the European Commission of the actions that they hope that member nations, companies, and individuals will implement. They do not have legal force.
	(5) Opinion	Opinions are statements of the beliefs and ideas of the European Commission regarding specific themes. They do not have legal force.

# Organization of relevant laws and regulations in Europe

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- European legislation now requires the installation of access points for sharing data in EU member states.



# Study of platform trends in Europe (status of individual countries)



[NAP support \(NAPs currently in operation\) \(confirmed on November 15, 2021\)](#)

The color-coded map at left shows the status of NAP support. The meanings of each color are as indicated below.

**Green:** Countries in which NAPs already support all four information categories

**Yellow:** Countries in which NAPs already support at least one of the information categories

**Red:** Countries in which none of the information categories are supported yet

According to an annual report issued in 2020 by the EU, as of December 2020, at least one NAP category is being supported in a total of 23 countries (Austria, Belgium, Bulgaria, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Lithuania, Luxembourg, Netherlands, Norway, Poland, Slovakia, Slovenia, Spain, Sweden, U.K.).

The map at left adds three more countries (Malta, Portugal, Romania), bringing the total up to 26 countries.

Source) EU EIP - Annual NAP Report 2020, A2 - Working Group NAP, Monitoring & Harmonisation of National Access Points in Europe  
<https://www.its-platform.eu/highlights/eu-eip-publishes-annual-nap-report-2020>  
(2022/2/1 checked)



# EU Regulation 2017/1926

## ● Mobility data managed by NAPs

### **Safe and Secure Truck Parking**

The Commission Delegated Regulation concerning this, (EU)885/2013, was adopted in 2013.

#### **Theme:**

Provision of information services for safe and secure parking places for trucks and commercial vehicles

#### **Data:**

Generally speaking, static data related to the parking areas, especially information regarding the number of parking areas. In some countries, information regarding safety and equipment can also be accessed. For some parking areas (only in Denmark, Germany, Luxembourg, and the Netherlands), there is also dynamic data on the availability of parking places

### **Safety Related Traffic Information (SRTI)**

The Commission Delegated Regulation concerning this, (EU)886/2013, was adopted in 2013.

#### **Theme:**

Data and procedures for the provision, where possible, of road safety-related minimum universal traffic information free of charge to users

#### **Data:**

The EU regulation requires the following eight types of safety-related information to be provided.

- (a) Temporarily slippery roads
- (b) Animal, people, obstacles, debris on the road
- (c) Unprotected accident areas
- (d) Short-term road works
- (e) Reduced visibility
- (f) Wrong-way drivers
- (g) Unmanaged road blockages
- (h) Exceptional weather conditions

### **Real-Time Traffic Information (RTTI)**

The Commission Delegated Regulation concerning this, (EU)2015/962, was adopted in 2015. It went into effect on July 13, 2017.

#### **Theme:**

Specifications for EU-wide real-time traffic information services

#### **Data:**

- (1) Static road data
- (2) Dynamic road status data
- (3) Traffic data

Example of data provided in Bulgaria

- (1) ⇒ Traffic signs reflecting traffic restrictions, permanent access restrictions, and other dangers/traffic circulation plans/locations of tolling stations/locations of parking places and service areas
- (2) ⇒ Road closures, lane closures, bridge closures, accidents and incidents, poor road conditions, weather conditions affecting road surfaces and visibility, etc.

### **Multimodal Travel Information Services (MMTIS)**

The Commission Delegated Regulation concerning this, (EU)2017/1926, was adopted on October 21, 2017.

#### **Theme:**

Provision of EU-wide multimodal travel information services

#### **Data:**

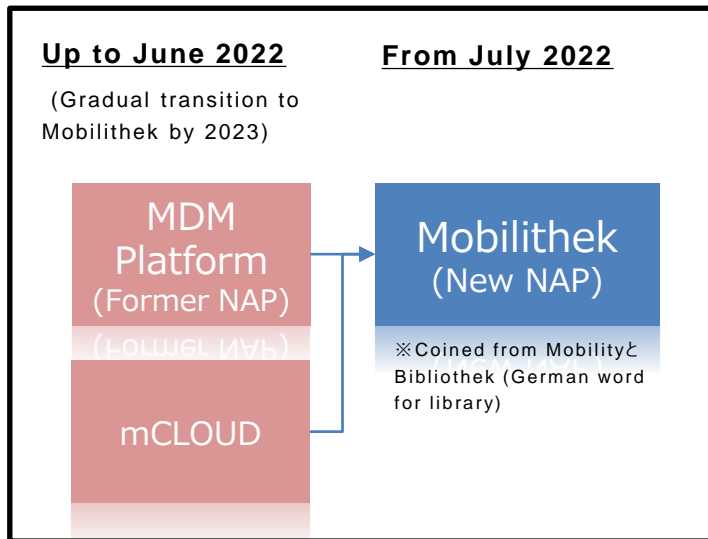
Static travel and traffic data must be provided through the NAP by December 1, 2019, for the travel and traffic data set out in point 1.1 of the Annex to the Commission Delegated Regulation.

Static travel and traffic data must be provided through the NAP by December 1, 2020, for the travel and traffic data set out in point 1.2 of the Annex to the Commission Delegated Regulation.

# Mobilithek – National Access Points in Germany (NAP)

## What is Mobilithek?

- A mobility data platform that will become Germany's NAP, to be operated by the German Federal Ministry of Transport and Digital Infrastructure (BMDV: Bundesministerium für Digitales und Verkehr).
- MDM Platform, a portal site (catalog site) operated by BMDV, and mCLOUD, a portal site for open data, have merged and BAST has become the operator. (Started on July 1, 2022)



	MDM Platform	mCLOUD	Mobilithek
<b>Operator (Consignee)</b>	BMDV (BAST)	BMDV (ITZBund)	BMDV
<b>Function</b>	Portal site (catalog site)	Portal site (catalog site)	Portal site (catalog site) for the time being Future expansion of functions is also under consideration.
<b>Positining</b>	<ul style="list-style-type: none"> <li>• It previously functioned as a German NAP</li> <li>• <b>Focuses on road traffic</b>, data from both the <b>public and private sectors</b> are listed.</li> </ul>	<ul style="list-style-type: none"> <li>• Mainly <b>mobility and infrastructure data provided by public agencies (federal, state, and basic municipalities)</b> are handled.</li> <li>• <b>Only free and open data</b> are the target.</li> </ul>	<ul style="list-style-type: none"> <li>• It will function as a German NAP in the future..</li> <li>• <b>Both public and road transport information</b> is covered in Germany.</li> <li>• Mobilithek itself is a <b>portal site (catalog site)</b> that does not provide information such as route search and information provision. (However, it is planned to expand functions such as dynamic data intermediary and API linkage in the future.)</li> </ul>

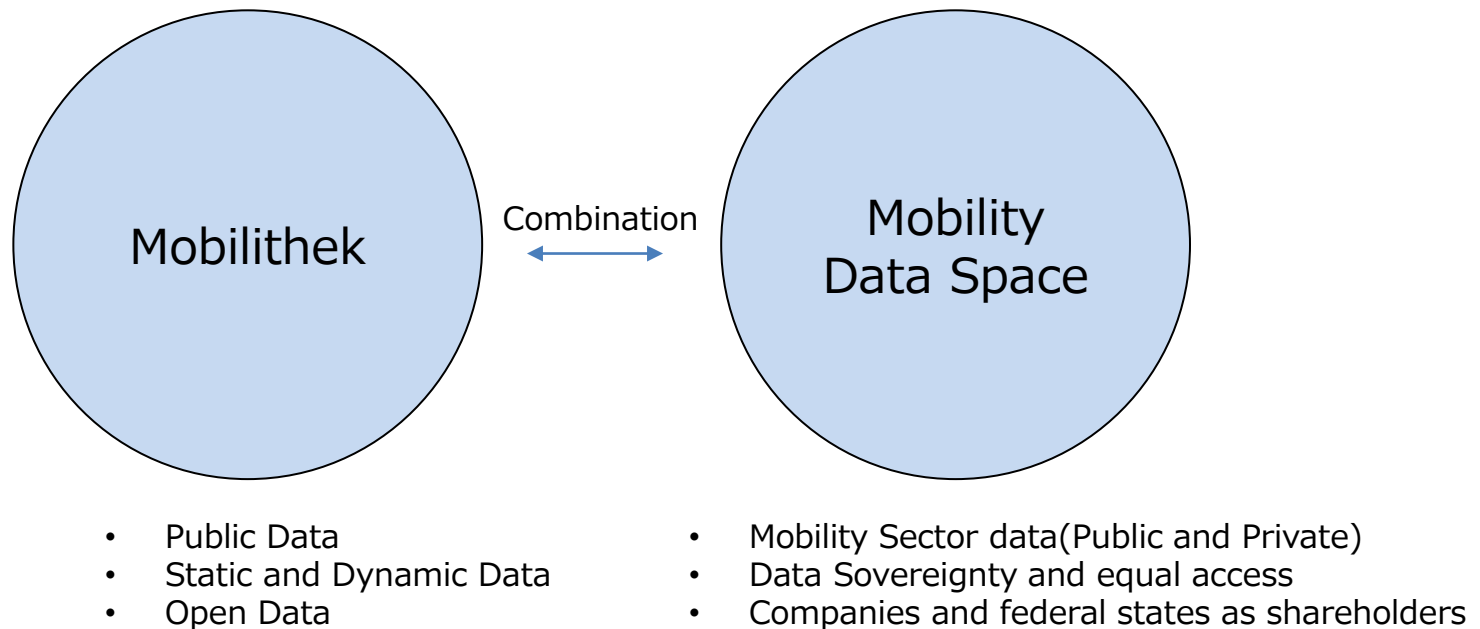
Source) BAST, BAST topics (Information from the Federal Highway Research Institute), February 2022, <https://www.bast.de/EN/Publications/BAST-topics/Downloads/BAST-topics-2022-1.pdf?blob=publicationFile&v=3> (2022/12/1 checked)

Ref.) Mobilithek, <https://mobilithek.info/ABOUT> (2022/12/1 checked)

# Mobilithek and Mobility Data Space in Germany

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- In Germany, Mobilithek and Mobility Data Space (MDS), which functions as a NAP, will be used together for the time being.
- Data that has been released by state and local governments as open data will be consolidated in Mobilithek, while high value-added data intended for the private sector will be consolidated in MDS, and used in different ways so that the value of the data collected will be different.



# Establishment of NAPCORE, a measure to expand and disseminate data catalogs - European NAP Consortium

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## What is NAPCORE (National Access Point Coordination Organization for Europe) ? :

- All EU Member States are required to develop National Access Points (NAPs) for mobility data on a country-by-country basis in accordance with EU regulations.
- A newly formed consortium to strengthen coordination and ensure compatibility between more than 30 NAPs in Europe.
- The project is funded by a EUR 14 million grant from the European Commission's CINEA fund "Connecting Europe Facility" and is expected to be active until the end of 2024.
- BAST serves as the coordinator of NAPCORE.

## **Future schedule:**

- As NAPCORE has just been established, the official website and other information will be opened in the near future.
- We will continue to watch for further information beyond the above at this time. Perspectives to follow include:
  - ✓ Methods of coordination between NAPs (e.g., setting up common data formats, developing common APIs)
  - ✓ Methods of generating and distributing data across borders and the entities responsible for eachetc.

# Establishment of NAPCORE, a measure to expand and disseminate data catalogs - European NAP Consortium

- NAPCORE was established as a coordinator to achieve data operations between NAPs in European countries.

<b>Background of establishment</b> <b>Motivation</b>	<ul style="list-style-type: none"><li>• Currently, NAPs have different specifications across Europe in terms of data access interfaces, data formats and data standards, etc.</li><li>• NAPCORE is an organization that coordinates the improvement of mobility data interoperability between European NAPs.</li></ul>
<b>Objectives</b>	<ul style="list-style-type: none"><li>• To define and implement a common strategy for NAPs in each European country.</li><li>• To strengthen the position of NAPs in European countries as the foundation for European ITS digital infrastructure and mobility data exchange.</li></ul>
<b>Initiatives</b>	<ul style="list-style-type: none"><li>• Standardization of metadata</li><li>• Standardization on quality standards for data and services</li><li>• Standardization of data profile</li><li>• Standardization concerning the function of NAP</li><li>• Standardization concerning compliance assessment</li></ul>

# Establishment of NAPCORE, a measure to expand and disseminate data catalogs - European NAP Consortium

- NAPCORE applies multiple standards to manage data.
- Application of standards contributes to reducing the difficulty of future system development.

## **【Data standards adopted by NAPCORE】**

### **① DATEX II**

- Electronic language (data standard) for the exchange of traffic information and traffic data
  - ✓ DATEX II is applied in the NAP for the following data:  
Safety Related Traffic Information (SRTI) / Real-Time Traffic Information (RTTI) / Safe and Secure Truck Parking Areas (SSTPA) / Multimodal Travel Information Services (MMTIS)

### **② TN ITS**

- It has a mobility data/road information data standard ("data chain mechanism" format) that is used for maps. It applies to data provided to map information providers.
  - ✓ Target data: Road-related information (speed limits, road regulations, traffic signs)



Reference) Transmodel, <https://www.transmodel-cen.eu/transmodel-netex-uk-transport-data/>, (2022/9/30 checked)

Reference) Datex, <https://www.datex2.eu/naps>, (2022/9/30 checked)

Reference) TN-ITS, <https://tn-its.eu/tn-its/>, (2022/9/30 checked)

# Establishment of NAPCORE, a measure to expand and disseminate data catalogs - European NAP Consortium

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※(Continued) from previous page

## 【Data standards adopted by NAPCORE】

### ③ Multimodal data (Transmodel/NetEX/SIRI)

- Transmodel:

It defines data standards for public transportation operations.

- ✓ Target data: Operation schedules and related data  
(Passenger information such as stops, route timetables, fares, and other information)
- ✓ It is also a data standard adopted by the EU, making future system development easier.

- NeTEX:

It defines a schedule of public transportation services or data standards related to it.

- SIRI:

It is an abbreviation of Standard Interface for real time information

It defines interface standards to enable the exchange of information between different systems.

**These standards are European standards or European de-facto standards, but the influence on international standards needs to be monitored by Japan as well, as it has just been mentioned in connection with ISO.**

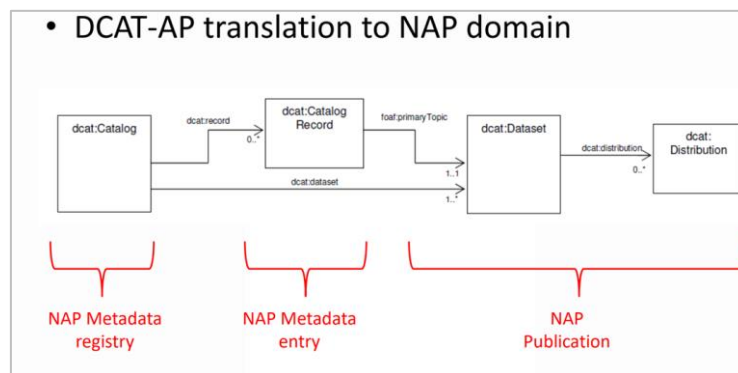
# Establishment of NAPCORE, a measure to expand and disseminate data catalogs - European NAP Consortium

- Collected metadata is also managed using the following standards and applied to the data catalog

## 【Data standards adopted by NAPCORE】

- Resource Description Framework(RDF)
  - It is a standard that defines how metadata is described
  - DCAT-AP
  - It defines metadata record specifications, enabling interoperability between European data portals.
  - It enables dataset exchange between European data portals and cross-border retrieval of public data.

### Transition of Metadata



Source) DCAT, [https://www.w3.org/2016/11/sdsvoc/SDSVoc16\\_paper\\_30](https://www.w3.org/2016/11/sdsvoc/SDSVoc16_paper_30) ,(2022/9/30 checked)

Reference) European ITS Platformウェブサイト, <https://www.its-platform.eu/wp-content/uploads/ITS-Platform/AchievementsDocuments/NAP/EU%20EIP%20-%20DCAT-AP%20extension%20for%20Metadata%20in%20NAPs%20-%20Oct%202020.pdf> ,(2022/9/30 checked)



# Summary of the Survey and Future Prospects

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## ■ Summary of the survey

- Utilization of mobility data platforms is spreading from public information and public transportation related data.
- Data format standards: European standards such as TISA, SENSORIS and NeTEX, and ISO standards such as DATA-X-II are adopted.
- Arrangements have been made for a data platform standard to be promoted by NAPCORE, and this is being promoted mainly in Germany.
- Although there are no established successful cases of involving private company data overseas, we plan to establish a data platform that aggregates high value-added data separately from a basic, highly public data platform, or to work on such high value-added data platforms as a competitive area for private companies.

## ■ Future prospects

- This year, through this survey, we have noticed a relationship that allows us to inquire information about Mobilithek, NAPCORE, and European data standards.
- In designing and operating a data platform in Japan in consideration of global trends in the future, it may be possible to consider international collaboration on these themes.

## **2. Summary of the Survey and Future Prospects**

# Results of operations and future actions

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## 1. Standardization trends of traffic environment information distribution using V2N

We conducted interviews with ADASIS officials. Obtained information on the next release schedule, etc.

We conducted interviews with mobility data stakeholders. There is a growing interest in data retrieval and compatibility among mobility data platforms (e.g., National Access Points) and a growing interest in setting up TISA and SENSORIS as collaborative areas for scoping.

As for Japan, while taking into account the future release trend of ADASIS at the very least, it may be possible to watch TISA and SENSORIS in parallel, which may have more influence on the discussion of standardization and data utilization.

## 2. Trends in data platforming/access points for mobility

The use of mobility data platforms is spreading from public information and public transportation-related data.

Data format standards: European standards such as TISA, SENSORIS, and NeTEX, and ISO standards such as DATAX-D are adopted.

Arrangements have been made for a data platform standard to be promoted by NAPCORE, and this is being promoted mainly in Germany.

Although there are no established successful cases of involving private company data overseas, we plan to establish a data platform that aggregates high value-added data separately from a basic, highly public data platform, or to work on such high value-added data platforms as a competitive area for private companies.

The design and operation of a data platform in Japan may include collaboration with the German government and the German Federal Highway Research Institute (BASt), as well as with Mobility data and others regarding data utilization and data formatting.

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