

Dynamic Map Development in SIP-adus

Cross-Ministerial **S**trategic **I**nnovation **P**romotion Program
Innovation of **A**utomated **D**riving for **U**niversal **S**ervices

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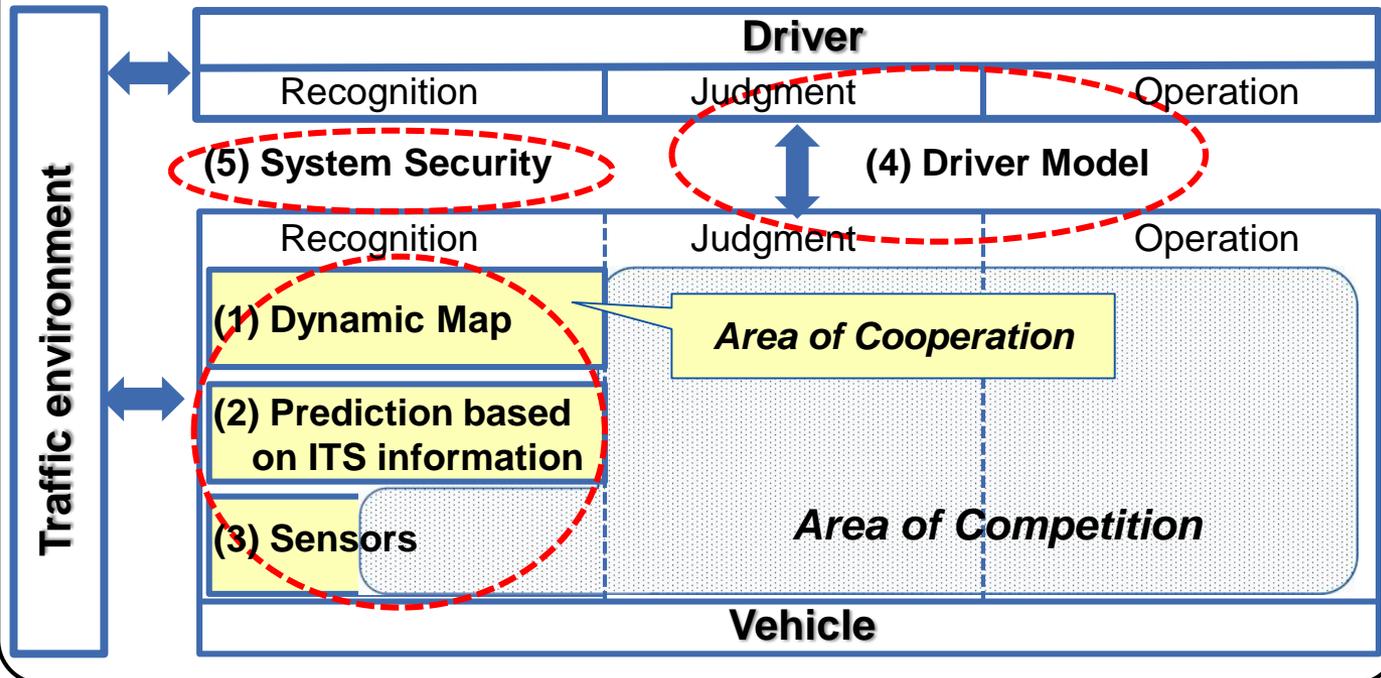


Scope of SIP-adus

(I) Development and verification of automated driving system

(III) International cooperation

Road Transport system



- (1) Open research facility
- (2) Social acceptance
- (3) Technology transfer

- (1) Enhanced local traffic management
- (2) Next generation transport system

- (1) Traffic fatality reduction effect estimation method & national shared database
- (2) Macro and micro data analysis and simulation technology
- (3) Local traffic CO₂ emission visualization technology

(IV) Development for next generation urban transport

(II) Basic technologies to reduce traffic fatalities and congestion

Dynamic Map

Hierarchical structure of digital 'Map' layered by time frame

Time frame

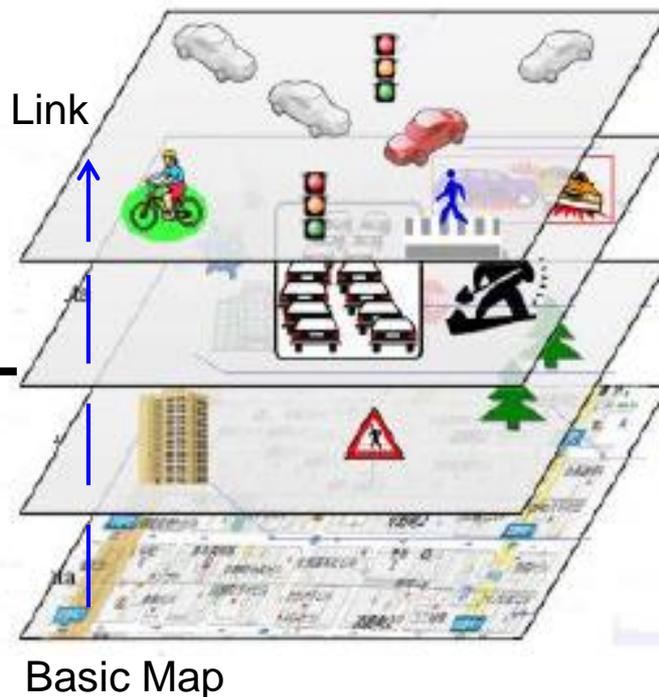
Dynamic (< 1 sec)

Semi-dynamic (< 1 min)

Semi-static (< 1 hour)

Static (<1month)

Linked layers



Information through V to X

- surrounding vehicles
- pedestrians
- timing of traffic signals

Traffic Information

- accidents
- congestion
- local weather

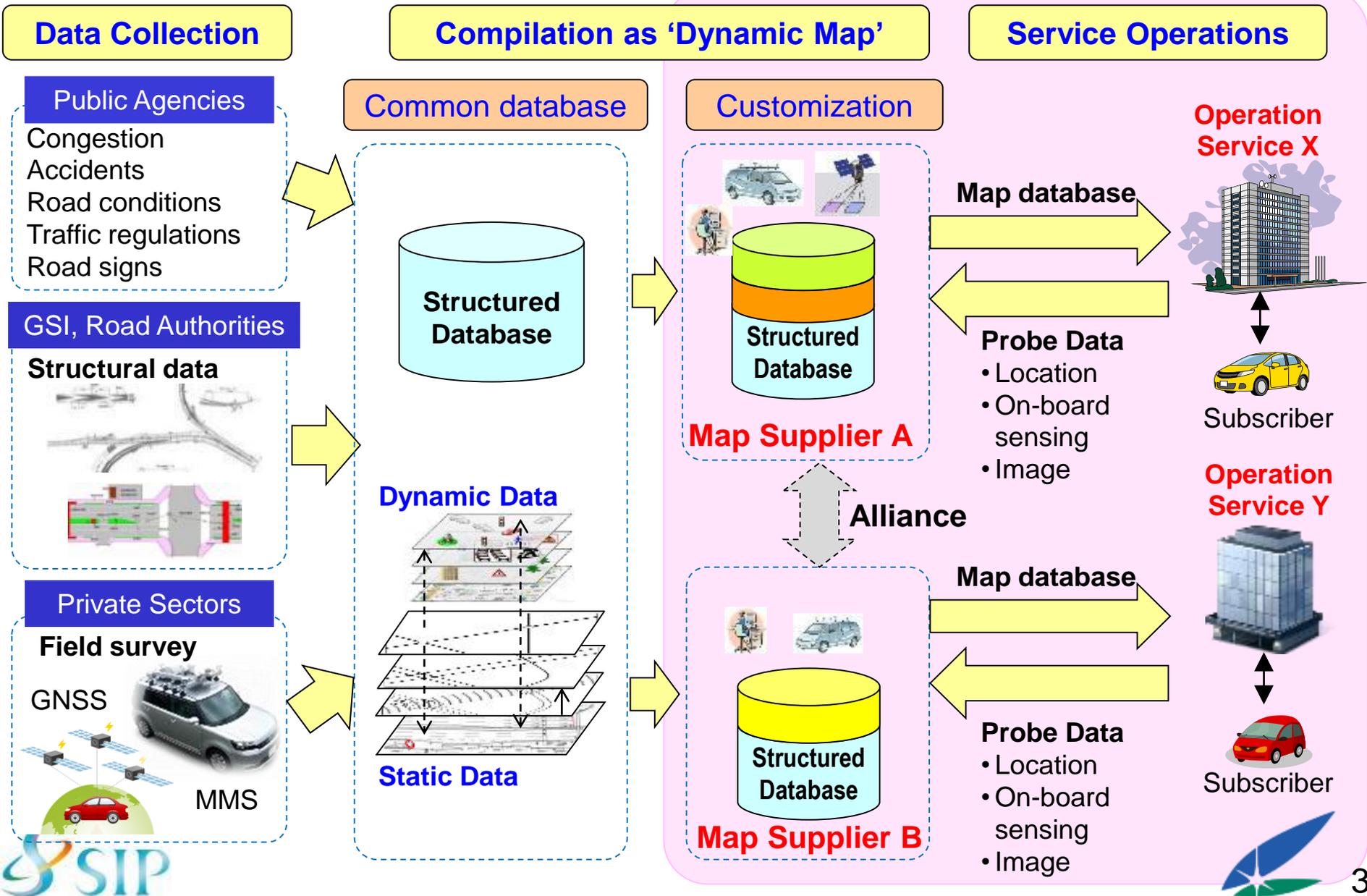
Planned and forecast

- traffic regulations
- road works
- weather forecast

Basic Map Database

- Digital cartographic data
- Topological data with unique
- Road Facilities

Framework for Dynamic Map



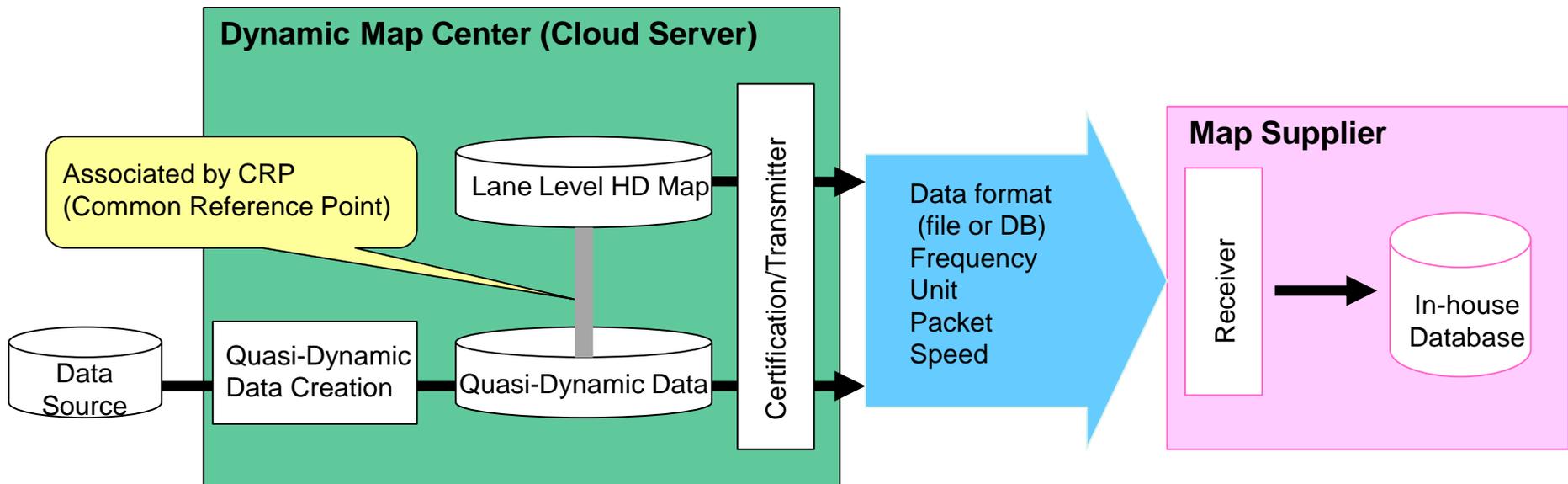
FY2016 Activity

	Design and Operation of HD Map	Dynamic Data Utilization	Dynamic Map Application
FY2014	First Trial of Lane Level HD Map		Use-Case Study
FY2015	Compilation of Data Spec and Guideline of HD map	Study of Probe Data Utilization Roadmap	Prototyping of Dynamic Map Data and Data Viewer
FY2016	Upgrading of Lane Level HD Map - Measurement and Editing Study of 'Dynamic Map Center' - Updating HD Map - Delivery process to Map Suppliers - Aggregation/Creation of Quasi-Dynamic Data Construction of 'Dynamic Map Center' Function		Function and Cost Study of 'Dynamic Map Center' - 'Dynamic Map Center' Function - Operation Cost of HD Map
on and after FY2017	<p style="text-align: center;"> Nationwide Updating FOT Standardization Realization </p> <p style="text-align: center; background-color: #90EE90; padding: 10px; width: 100%;">Dynamic Map Implementation</p>		

Dynamic Map Center

- Providing HD Static/Quasi-Dynamic data to Map Supplier
- Creating Quasi-Dynamic data and associating with HD Map

Studying System Configuration and Detailed Specification
Establishing Temporary 'Dynamic Map Center' in the Cloud



Dynamic Map Planning Co Ltd.

Investing Company

Investing Companies	Investment Ratio
MITSUBISHI ELECTRIC CORPORATION	18%
ZENRIN CO., LTD.	17%
PASCO CORPORATION	17%
AISAN TECHNOLOGY CO., LTD.	6%
INCREMENT P CORPORATION	6%
TOYOTA MAPMASTER INCORPORATED	6%
ISUZU MOTORS LIMITED	3.3%
SUZUKI MOTOR CORPORATION	3.3%
TOYOTA MOTOR CORPORATION	3.3%
NISSAN MOTOR CO., LTD.	3.3%
HINO MOTOR CO., LTD.	3.3%
FUJI HEAVY INDUSTRIES LTD.	3.3%
HONDA MOTOR CO., LTD.	3.3%
MAZDA MOTOR CORPORATION	3.3%
MITSUBISHI MOTORS CORPORATION	3.3%

Dynamic Map Planning Co Ltd.

Objectives

- Contribute to create new industries and services by having public and private sectors closely working together
- Study the methodologies of developing and operating High-precision 3D map data for expressways and general roads (Cooperative Areas of the Dynamic Map (“Dynamic Map”)) required to achieve the Automated Driving and ADAS system by working with automotive manufacturers and relevant authorities
- Study on the feasibility of business, supported by the initiatives of permanent map provision, toward the prompt practical use of Automated Driving and ADAS system

Establishment

June 2016

Mission

Judge the feasibility of common platform on high precision location information targeting expressways and general roads in Japan

Capital

300 million yen

3rd SIP-adus Workshop on Connected and Automated Driving Systems

Date: November 15-17, 2016

Venue: Tokyo International Exchange Center

- Topics:**
1. Dynamic Map
 2. Connected Vehicles
 3. Human Factors
 4. Impact Assessment
 5. Next Generation Transport
 6. Security
 7. Regional Activities & FOTs

- Program:**
- Plenary sessions
 - Breakout workshops

