Summary of SIP-adus Project (FY2016)

Name of the project	Surveying and investigation toward development of a common platform for dynamic maps as part of surveys and investigations to determine issues and directions in resolving these issues to achieve an automated driving system
Responsible Organization	Dynamic Map Common Platform Study Consortium Representative of the consortium: Dynamic Map Planning Co.,Ltd
Name Dynamic Map Planning Co.,Ltd	

Object of the Project

The purpose of this work is to clarify the requirements of the basic data for the shared platform and the issues that need to be resolved, from the standpoints of infrastructure maintenance as well as disaster prevention and mitigation, with a view to using in public applications the common 3D basic map data.

Project Summary

1. Surveying, investigation and verification toward use in public map applications

1.1 Verification toward application of road measurements and public measurement results

- Data was prepared using the MMS measurements conducted in Gifu Prefecture. It was confirmed that the data is of sufficient precision and quality to be used in public maps.

1.2 Investigation of applications to public measurements

- It was confirmed that the 3D map common platform data is of sufficient precision to be used in public maps, and that improvements in efficiency and economy can be expected.
- In terms of systems, however, the scope of applicability of private-sector measurements to public measurements is currently limited. Going forward, efforts must be made to expand that scope, in conference with the GSI and other related agencies.

2. Investigation and verification of the basic data structure for applying the 3D map common platform data in a wide range of fields

2.1 Survey and investigation of cases where practical use is possible and survey and investigation and extraction of issues regarding the structure of the common platform

- It was confirmed that the use of the 3D map data obtained by MMS, etc. in both infrastructure maintenance and disaster prevention and mitigation is expanding.
- In light of various cases, a number of scenarios for use of the 3D map common platform data in both infrastructure maintenance and disaster prevention and mitigation were prepared.

2.2 Prototyping, evaluation and verification of simulations of specific cases

- Based on the measurement data from Gifu Prefecture and the use scenarios, specific simulations were test-produced.
- Use scenarios and simulations were provided to the related organizations and consultations with those organizations were held. As a result, possible applications were identified in screening of important maintenance targets in and around roads, management of areas around emergency delivery routes, simulations of disaster damage, etc.
- Also, suitable directions for the preparation and updating of the 3D map common platform data, through appropriate cooperation and allocation of roles in the three SIP fields of automated driving, infrastructure maintenance and disaster prevention and mitigation, were identified.

3. Investigation of applicability of a wide range of data

3.1 Investigation of applicability of a wide range of data

- It was confirmed that the condition of targeted features could be grasped appropriately by combining and linking MMS measurement data with data from other sensors (aircraft, satellites, etc) and allocating roles.
- Policies for preparing and updating the 3D map common platform data through mutual cooperation were investigated.

Future plan

■Task

Going forward, it will be necessary to investigate further into specific work, projects, expected results, responses in terms of legal measures and other issues in fields it considers promising. It will also be necessary to search for other fields where the 3D map common platform data can be applied, beyond the fields of infrastructure maintenance and disaster prevention and mitigation.

■Future Initiatives

- Empirical examinations can be carried out through conference and cooperation between user candidates (local governments, infrastructure enterprises, etc.) and persons responsible on-site, etc.
  Examples: Maintenance of infrastructure (utility poles, electrical wires, manholes, etc.)
  Proving-test-type investigations using a combination of MMS and satellite information
- Exploration of fields and projects considered promising
- Exploration of fields and projects where application and/or contact is expected in the medium to long term
- Investigation of schemes to prepare and upgrade the 3D map common platform spatial data in partnership with related entitie