



57 Global R&D on the management cycle of road infrastructures

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R&D Objectives and Subjects

Objectives

R&D of Innovative hardware and software :

We are developing various technologies to reduce the life cycle cost of road infrastructures. Our research covers whole maintenance processes such as Inspection, Performance verification, repair & strengthening and renewal.

R&D of management system :

We are also developing a maintenance system for infrastructures in municipalities.

Implementation at home and abroad is our final goal. Developed technologies are implemented for domestic road infrastructures and municipalities. The scheme will be prepared to export the developed system.

Subjects

Key technologies for road maintenance :

3-D radar, Multi-scale simulation, Data assimilation, Survival analysis, Durable bridge decks, Water jets, Surface finishers, Water proofing material, Pre-cast bridge decks, Quality control system

Maintenance system for administrator :

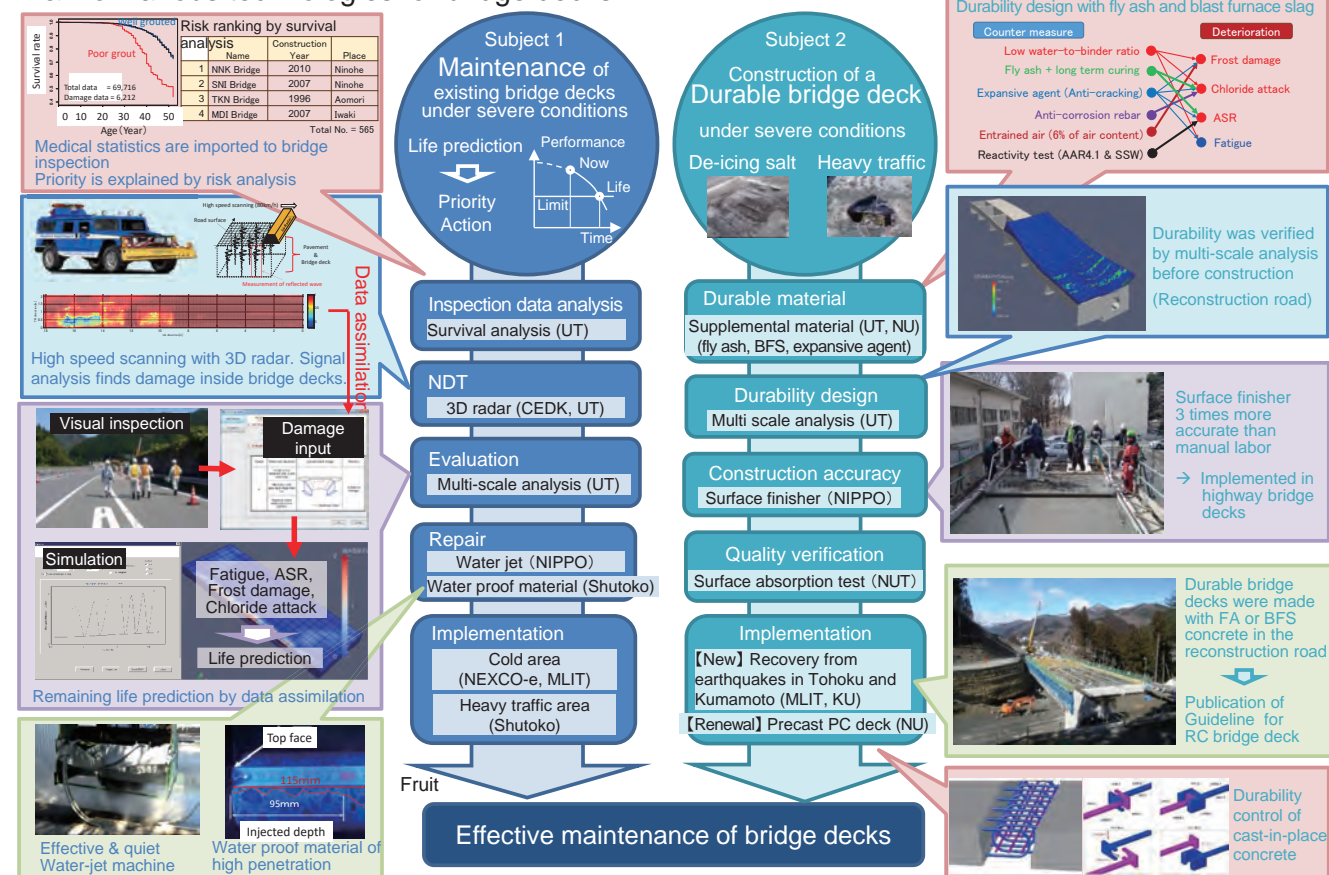
Asset management system, Management database, Education system, PDCA cycle of maintenance, Bidding model & Contract model, Business model

Exportation :

Preparation of ISO on the maintenance of concrete structures, Formulation of international hubs in other Asian countries, Information transmission

Current Accomplishments (1/2)

R&D of various technologies for bridge decks



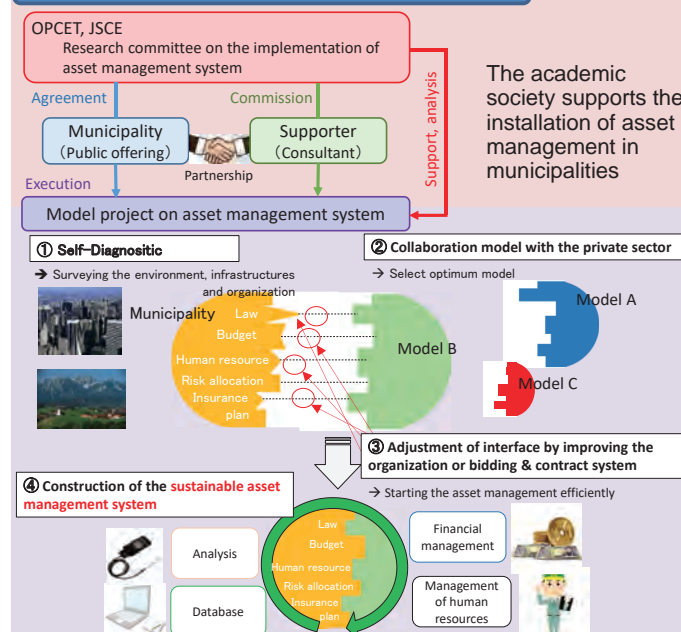
Current Accomplishments (2/2)

R&D of Maintenance systems for road administrator and municipalities

Asset management system for road administrator

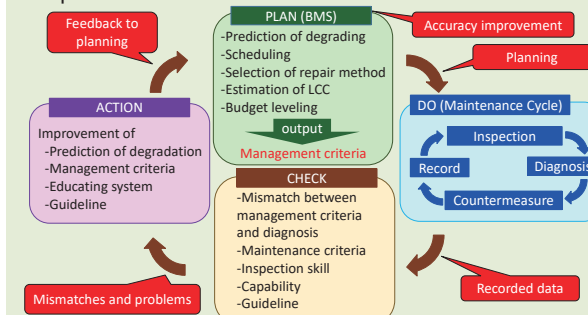
- Kyoto model (Pavement & Bridges) → Installed in Kyoto pref. & Vietnam
- Osaka model (Bridges) → Used in Hanshin Expressway Co., Ltd.
- Kochi model (Bridges) → Installed in Kochi pref. & Indonesia

Bidding and contract system for municipalities



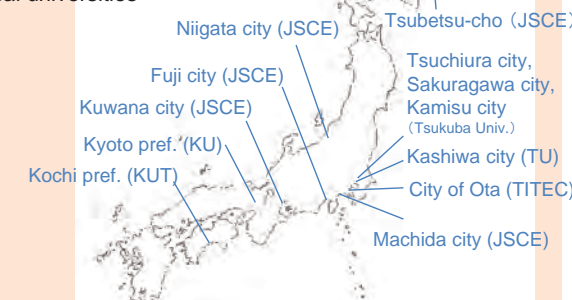
Kaizen cycle in maintenance

Improvement in education & inspection system to reduce inspection error



Pilot program map

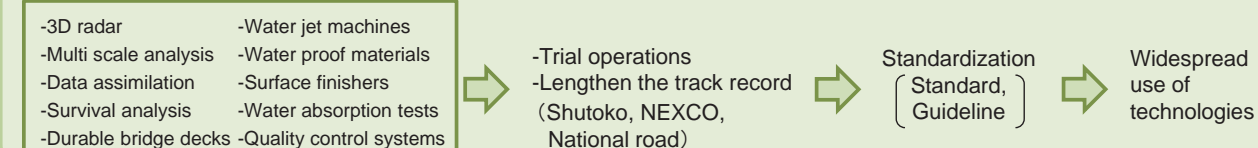
Cooperation between municipalities and local universities



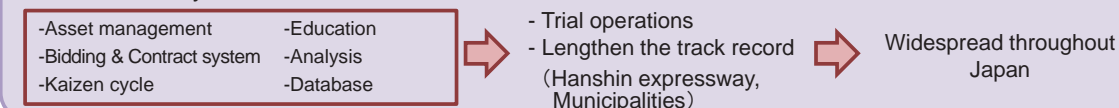
Goals

Implementation at home and abroad

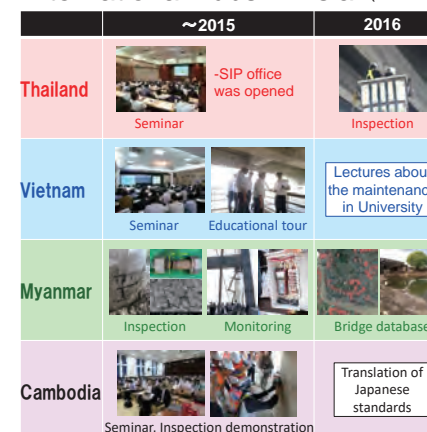
Cutting edge technologies for the maintenance of road infrastructures



Maintenance system for road infrastructures



International hubs in Asia (Hokkaido Univ., Tokyo Univ.)



Exportation of SIP technologies

