



Aru

Technical Committee (TC) Outline

Application of Monitoring Technology for Infrastructure Maintenance

Japan Society of Civil Engineers
(JSCE)

Background

- Infrastructure is critical for economic prosperity, economic growth and sustainable development. While many countries invest heavily in infrastructure construction, much less attention has been paid to maintenance work, which could generate a serious bottleneck to economic growth and public services in the long run.
- Utilizing new technologies for systematic infrastructure management is essential for both preventing accident and minimizing life-cycle-cost.



Air-borne salt from sea



Deteriorated beam

Objectives

- Civil Infrastructures have been constructed across the Asian region; however, maintenance has already become a big issue.
- Although a lot of monitoring technologies and products are developed, the administrators are struggling to choose technologies since the practical specifications are not standardized.



- The TC is to prepare the guidelines on the scheme for the maintenance of infrastructure; by making good use of monitoring technology, the maintenance work would be made sophisticated and efficient.

JSCE Recommendations for Utilization of Monitoring Technology (Draft)

- JSCE has been working on editing the “Recommendations for Utilization of Monitoring Technology in Japan”
- The TC will share the contents and discuss developing and reconstructing as the ACECC guidelines.

Table of Contents of JSCE Recommendations

Chapter 1	General
Chapter 2	Monitoring of Concrete Decks
Chapter 3	Monitoring of Concrete Beams
Chapter 4	Monitoring of Steel beams
Chapter 5	Monitoring in Salt Environments
Chapter 6	Monitoring of Bridge Piers and Foundations
Chapter 7	Monitoring of Embankment and Cutting Slopes
Chapter 8	Acquisition of Monitoring Data
Chapter 9	Storage and Utilization of Data

JSCE Recommendations for Utilization of Monitoring Technology (Draft)

Maintenance Cycle of Infrastructures

Monitoring to assist emergency response [improvement of efficiency, rationality, and safety]

Inspection

Monitoring to assist inspection [reduction of inspection cost]

Recording

Diagnosis

Monitoring the effect of repair and strengthening [evaluation of safety]

Measures
(repair,
reinforcement)

Monitoring to assist diagnosis [improvement of reliability of inspection and diagnosis]

TC Activities and Expected Outcomes

- Introduce JSCE recommendations
- Discuss needs on monitoring infrastructures in the Asian region
- Share practical examples applied to real structures
- Propose ACECC guidelines for the Application of Monitoring Technology for Infrastructure Maintenance

Field application

