

# NAGAI LAB.

## [Infrastructure Technology and Management]

International Center for Urban Safety Engineering

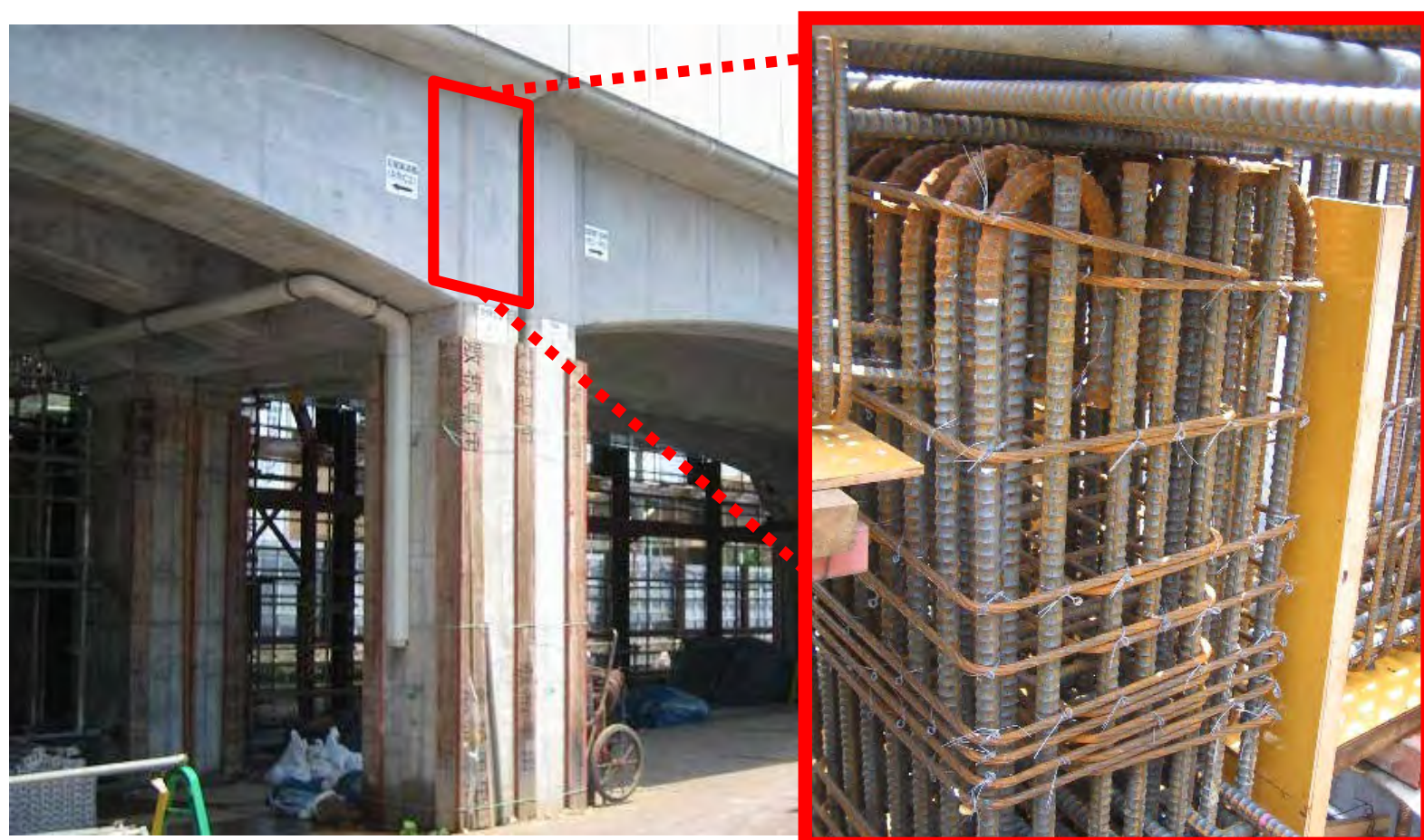
Infrastructure Management for Developed Society

Civil Engineering Department

<http://www.nagai.iis.u-tokyo.ac.jp/>

### Anchorage Performance of RC

As Japanese seismic design code is becoming more strict, larger amount of reinforcement must be placed in Reinforced Concrete (RC) structures at the joint part.



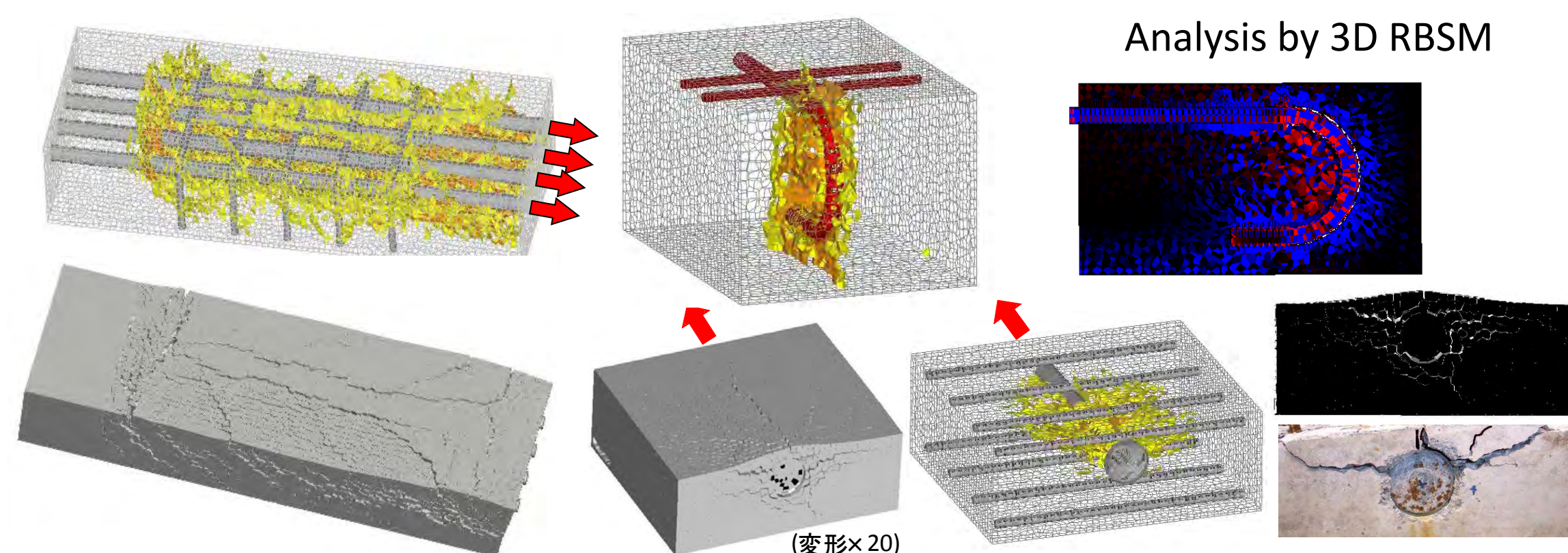
#### Problems

Increase the fabrication time

Poor concrete compaction may occur.

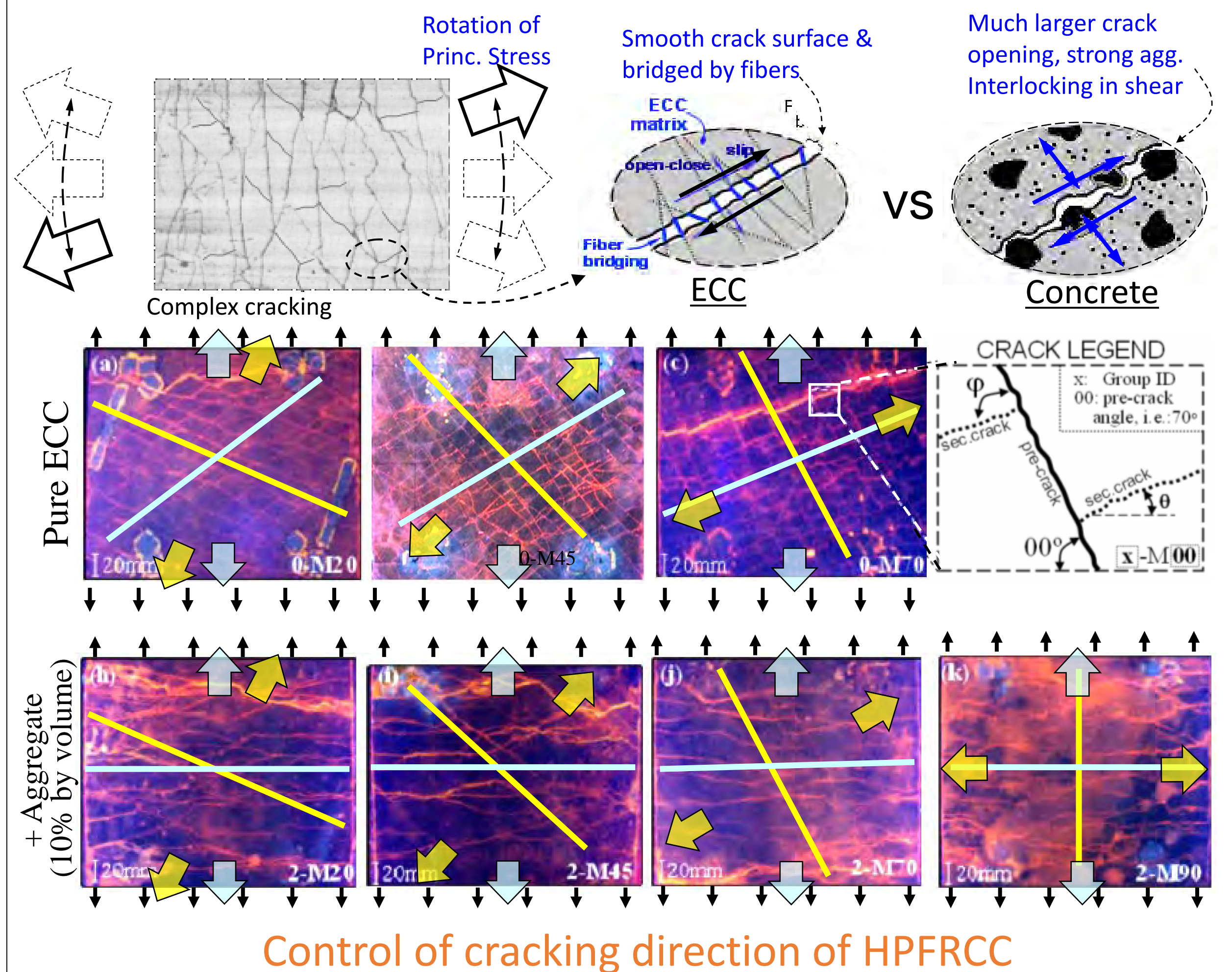
Stress condition in complex reinforcement arrangement

**Numerical simulation can clarify**  
**We aim to propose the rational design code**



### Mechanics of Fiber Reinforced Concrete under Principal Stress Rotation

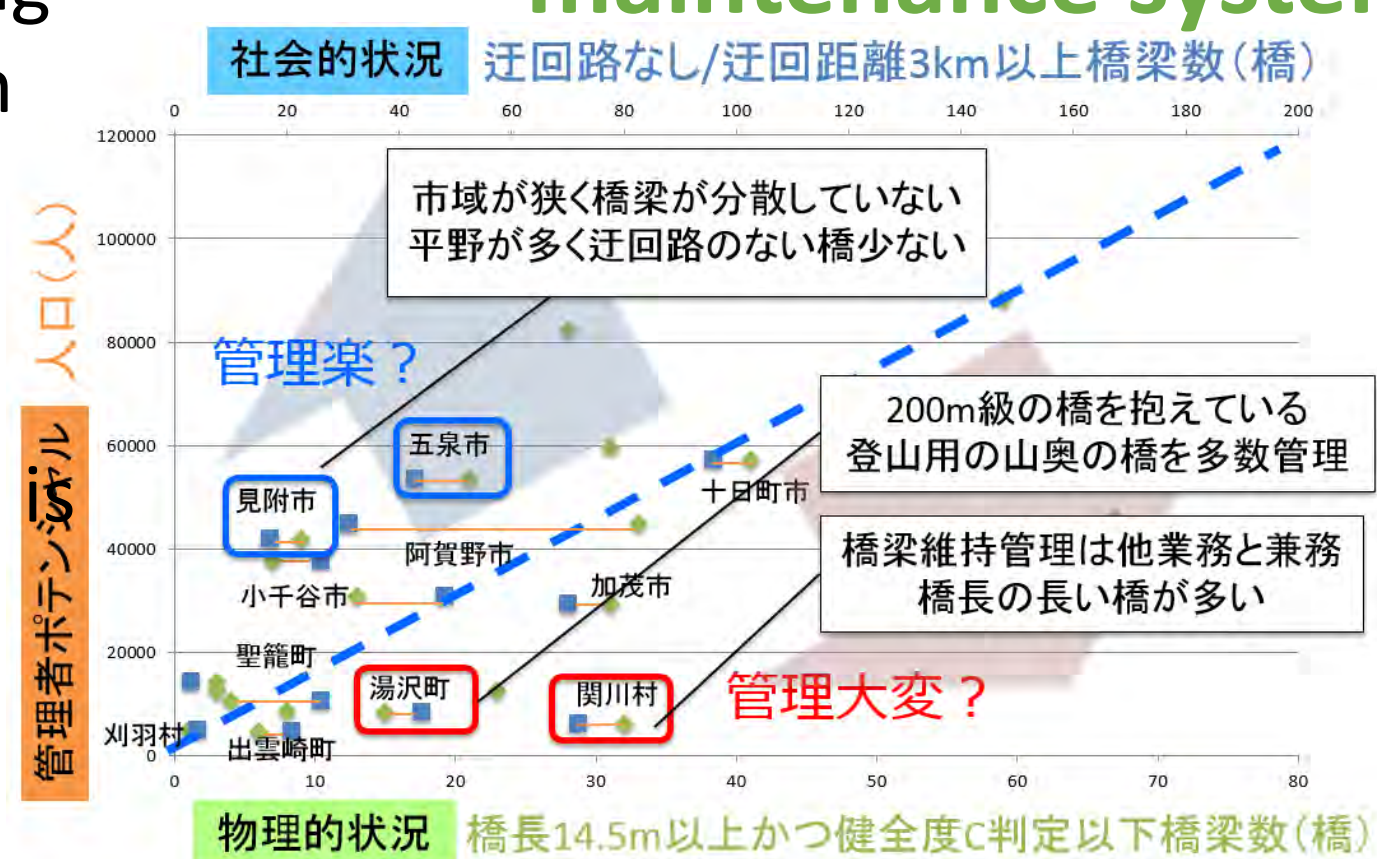
Robust material against the principal stress rotation is developed by focusing the shear performance.



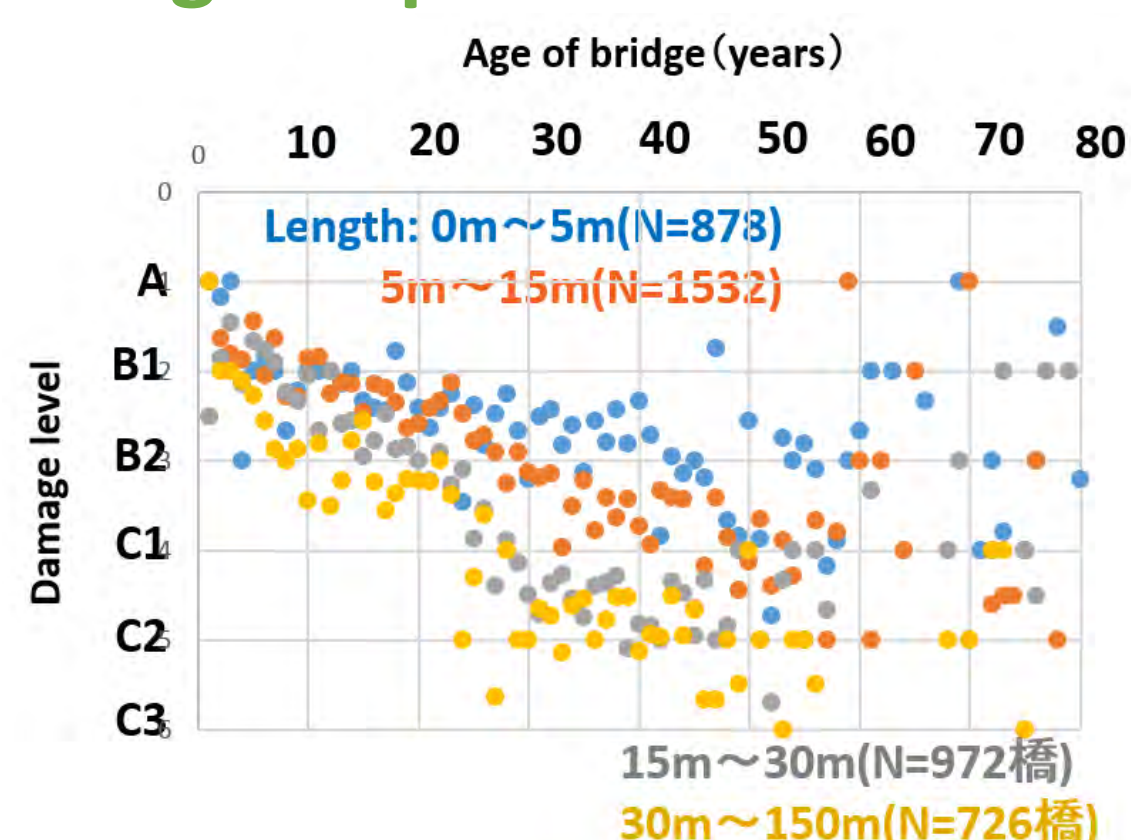
### Infrastructure Management for Municipalities in Japan

Japan faces a problem of aging of infrastructure. Especially in municipalities, lack of human resources, technology and budget are pointed out. Rational maintenance system required.

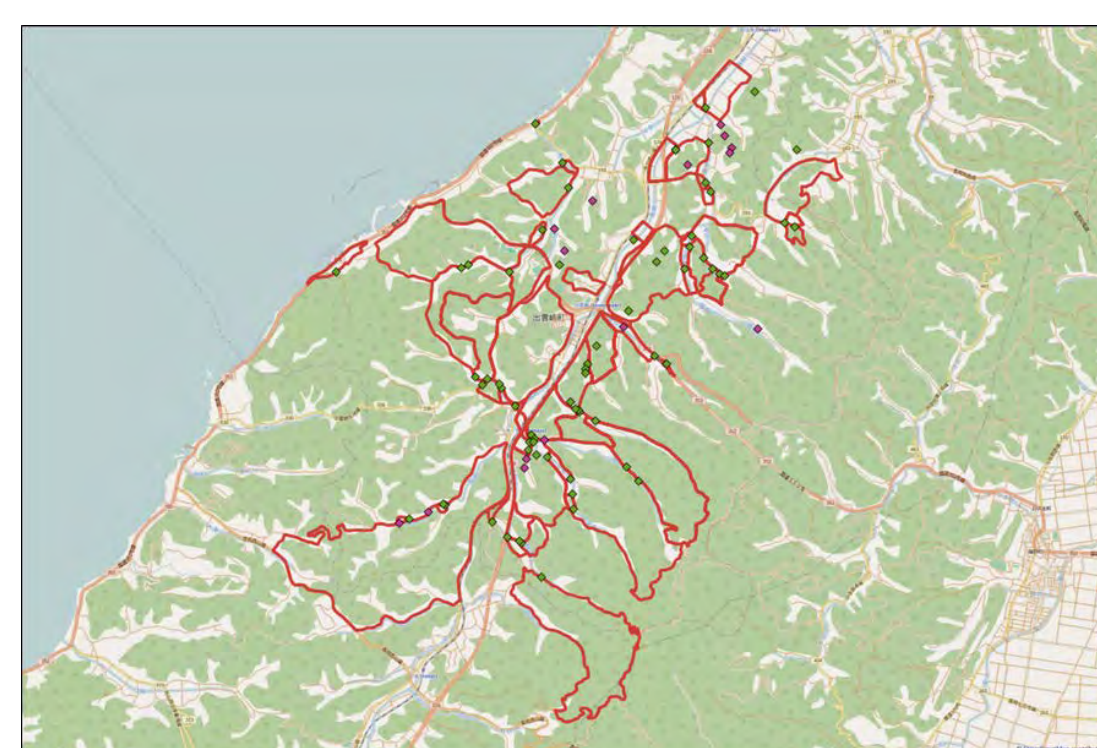
#### Indexation analysis of maintenance system



#### Analysis of bridge inspection data

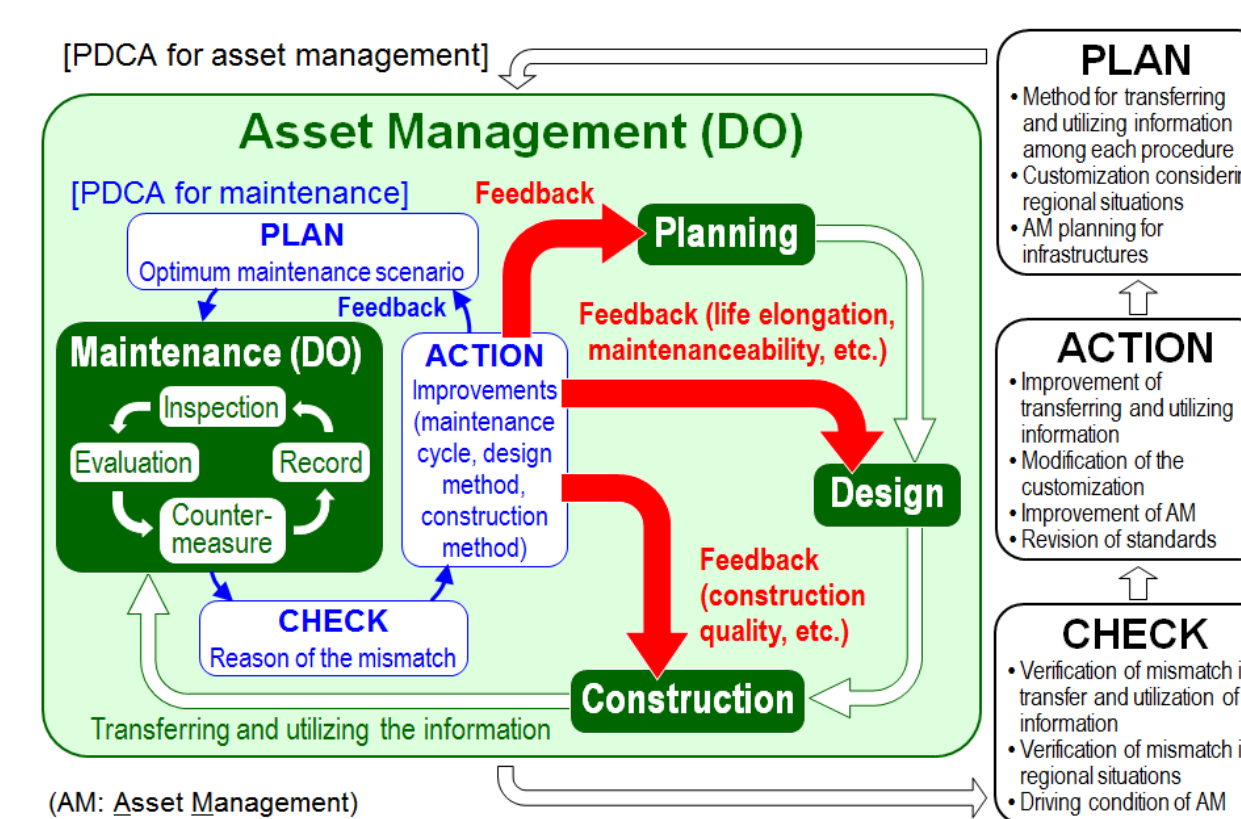


#### Calculation of roundabout route

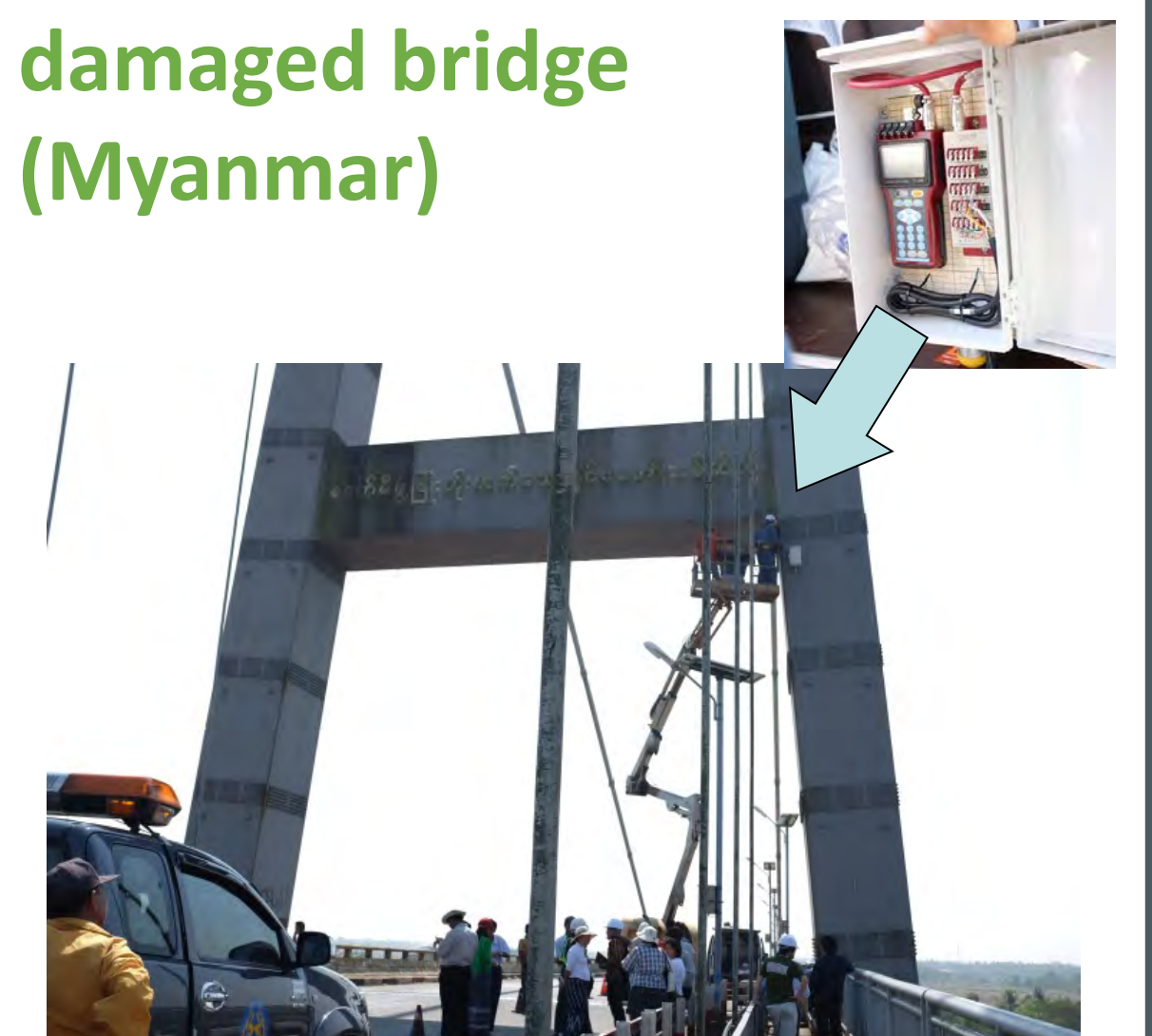


### International Expansion of Infrastructure Management

#### Asset management cycle



#### Simple monitoring of damaged bridge (Myanmar)



#### Seminar and demonstration of inspection (Thailand, Vietnam, Cambodia etc.)

