

ACECC TC28 1st Meeting on 17th Mar 2022



Outline

No.	Time	Contents	Presenter
1	13:00 – 13:05	Opening	Chair
2	13:05 – 13:15	Self Introduction	All members
3	13:15 – 13:25	Activities and Plans of TC28 General	Committee
	13:25 – 13:40	<Discussion> • Needs and Expectations for TC28	All members
4	13:40 – 13:45	How to proceed with TC28 Engineering	Committee
	13:45 – 13:55	Current State and Issue of Maintenance and Monitoring in Each Society/Institution	JSCE (Japan)
	13:55 – 14:05		KSCE (Korea)
	14:05 – 14:15		IEP (Pakistan)
	14:15 – 14:25		ASCE (US)
	14:25 – 14:50	<Discussion> • Comments on the above Presentations • Brief Information Sharing of Current State and Issues from Each Society/Institution • Discussion on Objectives of Monitoring • Suggestions for Activity and Plans of TC28	All members
5	14:50 – 14:55	Announcement for CECAR9 • Selection of Presenters	Committee
6	14:55 – 15:00	Closing	Chair

1. Opening



1. Opening

Chair of TC28 (also, Japanese Representative of ACECC)



Name:

Prof. Eiki YAMAGUCHI

Affiliation:

**Department of Civil Engineering,
Kyushu Institute of Technology**

2. Self Introduction



2. Self Introduction

ACECC TC28

Chair

Name: Prof. Eiki YAMAGUCHI
Affiliation: Kyushu Institute of Technology



Secretary

Name: Dr. Masaaki NAKANO
Affiliation: Nippon Koei Co., Ltd.



Vice Secretary

Name: Mr. Tetsuro GODA
Affiliation: Nippon Koei Co., Ltd.



Representatives from Each society/institution

ASCE, CICHE, EA, IEB, IEP, KSCE, PICE, VFCEA, JSCE

Japanese National Committee

2. Self Introduction (Representatives)

<Representative List for TC28>

As of 2022.3.14

Organization	(1) Name	(2) Affiliation	(3) Position	(4) Specified field	(5)Contact Address	(6)E-mail address
ASCE (US)	Dr. Lian Duan	California Department of Transportation, USA	Senior Bridge Engineering, Steel Committee Chair	Seismic Design, Structural Stability, Bridge Design	1801 30th Street, DES MS-9/1H, California Department of Transportation, Sacramento, CA 95816, USA	lduanbeh@gmail.com
	Dr. Chungwook Sim	University of Nebraska at Lincoln	Assistant Professor	Structural Engineering	1110 South 67 th St. (Office: PKI 203B), Omaha, Nebraska 68022, USA	csim@unl.edu
CICHE (Taiwan)	Dr.Tzu-Kang Lin	University of Yanming-Chiaotung, Taiwan	Professor	structural identification and monitoring of bridges.	-	tklin@nycu.edu.tw
EA (Australia)	Dr.Shane Scriven	Engineers Australia's Asset Management Council	Maintenance & Reliability Special Interest Group Chair	Maintenance & Reliability	Managing Director SAS Asset Management M +61 4 363 55137	Shane.Scriven@SASAssetManagement.com
IEB (Bangladesh)	Dr. A.F.M.Saiful Amin	Bangladesh University of Engineering and Technology (BUET)	Professor	Monitoring of bridge piers and foundations; Monitoring of corrosion, Vibration based monitoring	-	samin@ce.buet.ac.bd aminsaiful71@gmail.com
IEP (Pakistan)	Dr. Shamsoun Fareed	NED University of Engineering & Technology, Karachi-Pakistan	Associate Professor	Structures	Department of Civil Engineering, NED UET, University Road, Karachi-Pakistan	sfareed@neduet.edu.pk
KSCE (Korea)	Dr.Chang-Su Shim	School of Civil and Environmental Engineering, Urban Design and Studies, Chung-Ang University	Professor	-	Tel: 82-(0)2-820-5895, Fax: 82-(0)2-812-6397, Cell: 82-(0)10-4102-9151	csshim@cau.ac.kr
	Dr. Robin Eunju Kim	Department of Civil & Environmental Engineering Hanyang University	Assistant Professor	-	Office) 82-2-2220-0413 Fax) 82-2-2220-0399	robinekim@hanyang.ac.kr
PICE (Philippine)	Dr. Benito M. PACHECO	University of the Philippines Diliman	Professor	Structural Engineering; Environmental & Energy Engineering; Civil Engineering Education	Institute of Civil Engineering, UP Diliman, Quezon City 1108, Philippines Cell No. +639175332500	riskguide101@up.edu.ph
VFCEA (Vietnam)	Dr. Pham Hoang Kien	Faculty of Engineering Department of Automation and Design of Roads, University of Transport and Communication	Associate Professor	Automation of Bridge and Road Design	tel: 0975474828	phkien@utc.edu.vn
VFCEA(temp) (Vietnam)	Dr. Le Thanh Binh	Anglia Ruskin University, UK (Ho Chi Minh city University of Transport, Vietnam)	Senior Lecturer, UK (Visiting Lecturer, Vietnam)	Geotechnical Engineering, Image analysis technology	UK: Bishop Hall lane, Chelmsford, Essex, UK. Postcode: CM1 1SQ. (Vietnam: Ho Chi Minh city University of Transport, 2 Vo Oanh, Binh Thanh district, Ho Chi Minh city, Vietnam.)	binh.le@ut.edu.vn binh.le@aru.ac.uk
JSCE (Japan)	Dr. Masaaki NAKANO	Research & Development Center, Nippon Koei Co., Ltd.	General Manager, Center for Advanced Research	Structures, Maintenance	TEL:+81-29-871-2119	a4753@n-koei.co.jp
	Mr. Tetsuro GODA	Research & Development Center, Nippon Koei Co., Ltd.	Engineer, Center for Advanced Research	Structures, Maintenance	Tel:+81-90-2637-8228	goda-tt@n-koei.jp



Substitute representative for today's meeting:
Name: Chi-Ying Lin

2. Self Introduction (Japanese National Committee)

<Japanese National Commission for TC28>

As of 2022.3.14

Organization	(1) Name	(2) Affiliation	(3) Position	(4) Specified field	(5)Contact Address	(6)E-mail address
JSCE (Chair)	Dr. Eiki Yamaguchi	Department of Civil Engineering, Kyushu Institute of Technology	Professor	Bridge, Structures	Tobata, Kitakyushu 804-8550, Japan Phone: +81-93-884-3110	yamaguch@civil.kyutech.ac.jp
JSCE (Executive secretary)	Dr. Masaaki NAKANO	Nippon Koei Co., Ltd.	General Manager	Structures, Maintenance	Nippon Koei Co., Ltd. 2304 Inarihara, Tsukuba, Ibaraki 300-1259 JAPAN Tel: +81-29-871-2119 (Mobile)	a4753@n-koei.co.jp
JSCE (Secretary)	Mr. Tetsuro GODA	Nippon Koei Co., Ltd.	Engineer	Structures, Maintenance	Nippon Koei Co., Ltd. 2304 Inarihara, Tsukuba, Ibaraki 300-1259 JAPAN Tel: +81-90-2637-8228 (Mobile)	goda-tt@n-koei.jp
JSCE	Kimitoshi MATSUYAMA	Nippon Koei Co., Ltd.	(Not asked yet)	(Not asked yet)	5-4 Kojimachi, Chiyoda-ku, Tokyo 102- 8539 JAPAN Tel: +81-3-3238-8377	a4043@n-koei.co.jp
JSCE	Masaki MIYAMURA	FUKUYAMA CONSULTANTS Co., Ltd.	(Not asked yet)	(Not asked yet)	Tokyo, Chiyoda City, Kanda Iwamotochō, 4- 14 4F, 101-0033 Tel: +81-3-5296-9406	m.miyamura@fukuyamaconsul.co.jp
JSCE	Hiroshi DOBASHI	Technology Center of Metropolitan Expressway	(Not asked yet)	(Not asked yet)	Tokyo, Minato City,Toranomon, 3-chōme- 10-11, 105-0001 Tel: +81-3-3578-5750	dobashi@tecmed.or.jp
JSCE	Osamu IKEDA	East Nippon Expressway Company Limited	(Not asked yet)	(Not asked yet)	260 Kakura, Iwatsuki Ward, Saitama, 339- 0056 Tel: +81-48-749-0608	o.ikeda.aa@e-nexco.co.jp



Photo Session

**Could you please turn your camera on?
(We will use 'together mode' of Microsoft Teams.)**

3. Activities and Plans of TC28



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.



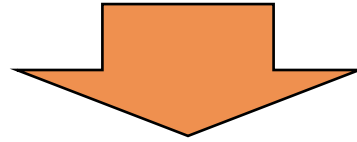
Air-borne salt from sea



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 (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 (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

◆ Period of Activity

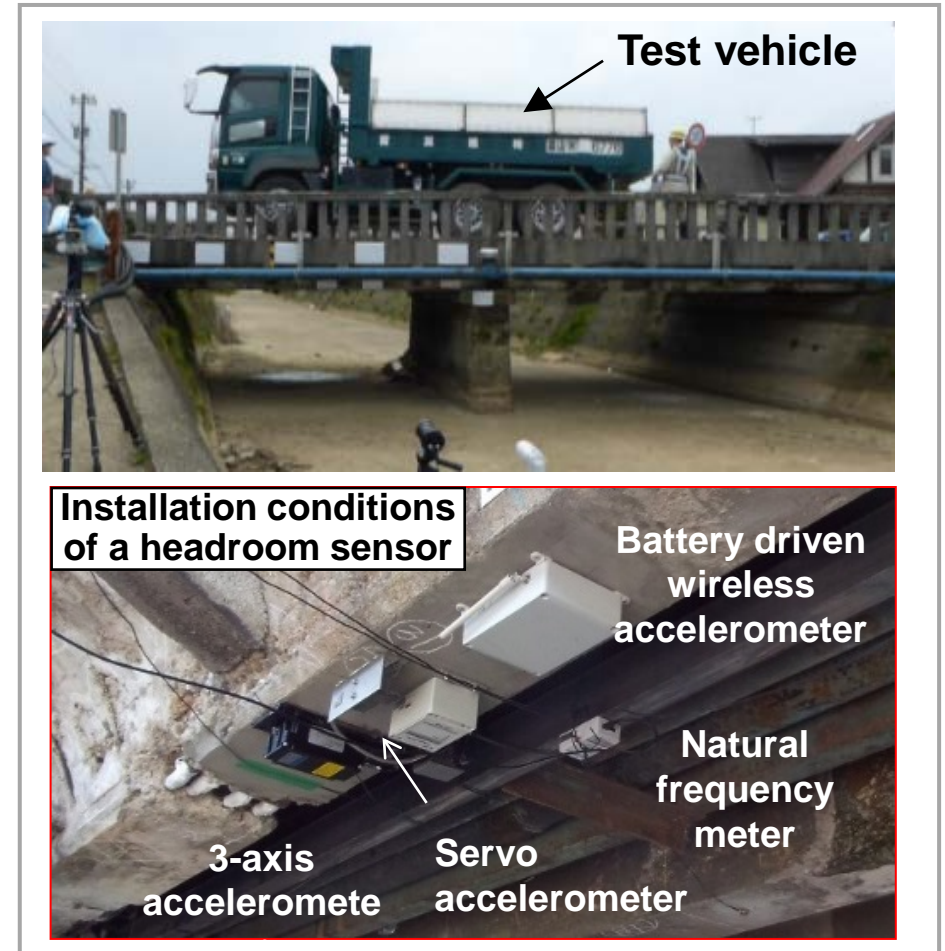
October 2021 - September 2024 (3 years)

◆ Expected Outcomes

- To make ACECC guidelines for application of monitoring technology based on JSCE recommendations
- Reports on status and issues of maintenance and monitoring in each society/institution
- Reports on introduction to latest technologies of monitoring and application examples
- Suggestions to promote practical applications of monitoring in Asia for next generations

We will try field applications in each society/institution if possible (It still depends on the COVID situation..)

Field application



(https://www.jst.go.jp/sip/dl/k07/booklet_en/33.pdf)

Schedule of TC28

◆ Overall Schedule

- We share progress in TC meetings and adjust working plan according to the progress.

Items	Contents	2021	2022					2023					2024				
		10~12	1~3	4~6	7~9	10~12	1~3	4~6	7~9	10~12	1~3	4~6	7~9	10~12			
Planning	Make a plan of ACECC TC28																
ACECC Guideline	Translate JSCE Recommendations, Take feedback from each society																
Work of Each Country	Share state and issue of maintenance and monitoring																
	Share application examples of monitoring																
	Introduce latest technologies of monitoring																
	Organize information on possibilities of practical applications in Asia																
Summarization	Summarize reports																
TC Meeting	Hold a meeting once in half a year (Basically, March and September)																

1st TC Meeting

CECAR9

ECM & Symposium

ECM & Symposium

Session at CECAR9

TC28 will have a session at CECAR9 in India on Sept. 21-23, 2022!



◆ Purpose:

Sharing information and discussion on needs and expectations of monitoring technology for infrastructure maintenance

◆ Time:

90mins

◆ Program (Draft):

- Explanation of purpose for establishment of ACECC and TC : 5mins
 - Presentations for topic provision from member societies/institutions
: 15mins x 5societies/institutions
 - Discussion and Summarization : 10mins
- ※ Paper submission is not required.

Discussion

<Topic>

- Any Comments and Questions for Activities and Plans of TC28
- Needs and Expectations for TC28

13:25 – 13:40 in JST

4. How to proceed with TC28

Working Flow (First Step)

Share state and issue of maintenance and monitoring

We have 9 societies/institutions in TC28. There are different types of issues in each country.

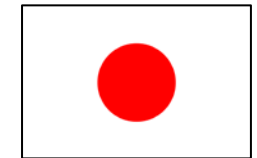
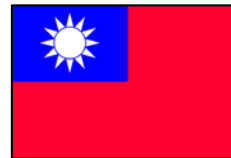
- Monitoring technologies
- Regulations
- Administrator
- Number of old structures
- Number of engineers
- Budget for maintenance
- etc..



Share these info as a first step of TC28



We have currently 9 societies/institutions in TC28!



Working Flow (Overall and towards CECAR9)

Share state and issue of maintenance and monitoring

We have 9 societies/institutions in TC28. There are different types of issues in each country.

- Monitoring technologies
- Regulations
- Administrator
- Number of old structures
- Number of engineers
- Budget for maintenance
- etc..



Share these info as a first step of TC28

Share application examples of monitoring

Introduce latest technologies of monitoring

Organize information on possibilities of practical applications in Asia

Today, KSCE, JSCE IEP, and ASCE will share the info.

Share info by 5 societies/institutions in CECAR9



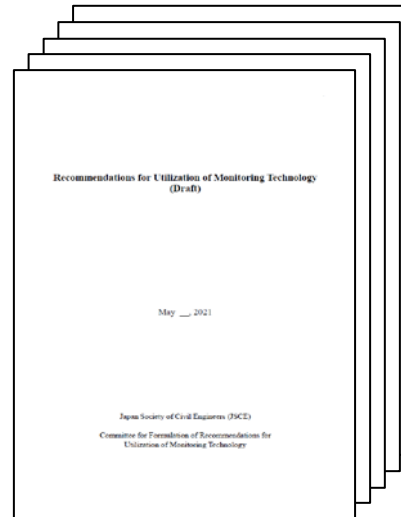
Extract issues and enhance the quality of TC28

Monitoring Guidelines

As for Japan, we have developed and experimented monitoring technologies in a certain degree. However, they are rarely employed for practical usage.

JSCE has been working on editing the “Recommendations for Utilization of Monitoring Technology”. We hope the guideline is effectively adopted for increase of practical usage of monitoring.

Preparation of Guideline
for Installation of
Monitoring Technologies



**Monitoring technologies
will be employed more in
practical usage.**

If your society/institution has this kind of guideline, it would be referred to make a new guideline of ACECC!

Presentation

<Topic>

- **Current State and Issue of Maintenance and Monitoring in Each Society/Institution**

[by JSCE] 13:45 – 13:55 in JST

[by KSCE] 13:55 – 14:05 in JST

[by IEP] 14:05 – 14:15 in JST

[by ASCE] 14:15 – 14:25 in JST

Discussion

<Topic>

- Comments on the above Presentations
- Brief Information Sharing of Current State and Issues from Each Society/Institution
- Discussion on Objectives of Monitoring
- Suggestions for Activity and Plans of TC28

14:25 – 14:50 in JST

5. Announcement for CECAR9



Session at CECAR9

TC28 will have a session at CECAR9 in India on Sept. 21-23, 2022!



◆ Purpose:

Sharing information and discussion on needs and expectations of monitoring technology for infrastructure maintenance

◆ Time:

90mins

◆ Program (Draft):

- Explanation of purpose for establishment of ACECC and TC : 5mins
- Presentations for topic provision from member societies/institutions : 15mins x 5societies/institutions
- Discussion and Summarization : 10mins

We need 5societies/institutions!



✂ Paper submission is not required.

List of Representatives

<Representative List for TC28>

As of 2022.3.14

Organization	(1) Name	(2) Affiliation	(3) Position	(4) Specified field	(5)Contact Address	(6)E-mail address
ASCE (US)	Dr. Lian Duan	California Department of Transportation, USA	Senior Bridge Engineering, Steel Committee Chair	Seismic Design, Structural Stability, Bridge Design	1801 30th Street, DES MS-9/1H, California Department of Transportation, Sacramento, CA 95816, USA	lduanbeh@gmail.com
	Dr. Chungwook Sim	University of Nebraska at Lincoln	Assistant Professor	Structural Engineering	1110 South 67 th St. (Office: PKI 203B), Omaha, Nebraska 68022, USA	csim@unl.edu
CICHE (Taiwan)	Dr.Tzu-Kang Lin	University of Yanming-Chiaotung, Taiwan	Professor	structural identification and monitoring of bridges.	-	tklin@nycu.edu.tw
EA (Australia)	Dr.Shane Scriven	Engineers Australia's Asset Management Council	Maintenance & Reliability Special Interest Group Chair	Maintenance & Reliability	Managing Director SAS Asset Management M +61 4 363 55137	Shane.Scriven@SASAssetManagement.com
IEB (Bangladesh)	Dr. A.F.M.Saiful Amin	Bangladesh University of Engineering and Technology (BUET)	Professor	Monitoring of bridge piers and foundations; Monitoring of corrosion, Vibration based monitoring	-	samin@ce.buet.ac.bd aminsaiful71@gmail.com
IEP (Pakistan)	Dr. Shamsoun Fareed	NED University of Engineering & Technology, Karachi-Pakistan	Associate Professor	Structures	Department of Civil Engineering, NED UET, University Road, Karachi-Pakistan	sfareed@neduet.edu.pk
KSCE (Korea)	Dr.Chang-Su Shim	School of Civil and Environmental Engineering, Urban Design and Studies, Chung-Ang University	Professor	-	Tel: 82-(0)2-820-5895, Fax: 82-(0)2-812-6397, Cell: 82-(0)10-4102-9151	csshim@cau.ac.kr
	Dr. Robin Eunju Kim	Department of Civil & Environmental Engineering Hanyang University	Assistant Professor	-	Office) 82-2-2220-0413 Fax) 82-2-2220-0399	robinekim@hanyang.ac.kr
PICE (Philippine)	Dr. Benito M. PACHECO	University of the Philippines Diliman	Professor	Structural Engineering; Environmental & Energy Engineering; Civil Engineering Education	Institute of Civil Engineering, UP Diliman, Quezon City 1108, Philippines Cell No. +639175332500	riskguide101@up.edu.ph
VFCEA (Vietnam)	Dr. Pham Hoang Kien	Faculty of Engineering Department of Automation and Design of Roads, University of Transport and Communication	Associate Professor	Automation of Bridge and Road Design	tel: 0975474828	phkien@utc.edu.vn
VFCEA(temp) (Vietnam)	Dr. Le Thanh Binh	Anglia Ruskin University, UK (Ho Chi Minh city University of Transport, Vietnam)	Senior Lecturer, UK (Visiting Lecturer, Vietnam)	Geotechnical Engineering, Image analysis technology	UK: Bishop Hall lane, Chelmsford, Essex, UK. Postcode: CM1 1SQ. (Vietnam: Ho Chi Minh city University of Transport, 2 Vo Oanh, Binh Thanh district, Ho Chi Minh city, Vietnam.)	binh.le@ut.edu.vn binh.le@aru.ac.uk
JSCE (Japan)	Dr. Masaaki NAKANO	Research & Development Center, Nippon Koei Co., Ltd.	General Manager, Center for Advanced Research	Structures, Maintenance	TEL:+81-29-871-2119	a4753@n-koei.co.jp
	Mr. Tetsuro GODA	Research & Development Center, Nippon Koei Co., Ltd.	Engineer, Center for Advanced Research	Structures, Maintenance	Tel:+81-90-2637-8228	goda-tt@n-koei.jp

6. Closing

6. Closing

Thank you for your kind attention!