



BID PROPOSAL

# 17th WORLD CONFERENCE ON EARTHQUAKE ENGINEERING

**SENDAI, JAPAN**



JAPAN ASSOCIATION FOR  
EARTHQUAKE ENGINEERING





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Invitation Letter - Prime Minister of Japan

OFFICE OF THE PRIME MINISTER  
TOKYO

October 7, 2016



Dr. Sudhir K. Jain  
President  
International Association for Earthquake Engineering

Dear Dr. Jain,

Today I am writing to strongly recommend Sendai as the host city of the 17<sup>th</sup> World Conference on Earthquake Engineering (17WCEE) in 2020.

The city of Sendai suffered severe damage from the Great East Japan Earthquake of 2011, which hit northeastern Japan and had the greatest recorded magnitude ever for this country. Since then, the Government of Japan has put top priority on the reconstruction and revitalization of Sendai and other devastated areas, and has spared no efforts in planning and promoting policies to support the area’s local communities and residents.

As a result of measures taken by the steadfast, committed national government, the reconstruction of Sendai’s infrastructure has made significant progress, and its economy and the residents’ lives are on the road to recovery. The Government of Japan hosted the United Nations World Conference on Disaster Risk Reduction in 2015 and the G7 Finance Ministers and Central Bank Governors’ Meeting in 2016, both in Sendai, with the aim of showing the world how Sendai has overcome the difficulties brought about by the earthquake and of presenting our sincere appreciation for the recovery assistance received from abroad in 2011.

I believe that Sendai’s experience would contribute to the success of the 17WCEE by stimulating even more active discussions. The participants will also be able to enjoy Sendai’s attractiveness as a tourism destination.

As the Prime Minister of Japan, I would like to restate my sincere hope that we will have the honor of hosting the 17WCEE in Sendai in 2020.

Sincerely yours,

Shinzo Abe  
Prime Minister of Japan



# Invitation Letter - President of JAEE



November 10, 2016



Dr. Sudhir K. Jain  
President, International Association for Earthquake Engineering

Dear Dr. Jain,

On behalf of Japan Association for Earthquake Engineering (JAEE), I am writing this letter to express our strong desire to host the 17th World Conference on Earthquake Engineering (17WCEE) in Sendai, Japan, a disaster-resilient and eco-friendly city, in September 2020 just after the 2020 Tokyo Olympic and Paralympic Games.

Seismic risks for societies have been globally increasing due to rapid growth in population and urbanization, and I strongly feel that the 17WCEE must be organized to adequately face these issues. As Japan is located in one of the most earthquake-prone areas in the world, since 1988 when the 9WCEE was held in Japan, we have already experienced numerous earthquakes, including 21 earthquake disasters with over 100 injuries and fatalities, with various types of earthquake mechanism and disaster characteristics. These experiences should be widely shared to reduce earthquake damage in the world. Among them, the worst two events were the 1995 Kobe Earthquake and the 2011 Great East Japan (Tohoku) Earthquake. Although five years and eight months have passed since the 2011 Earthquake, its induced damage was so serious that we are still recovering from it. Also, in Japan, we have been promoting disaster countermeasures against future earthquakes, such as those predicted to occur in the Tokyo metropolitan area and along the Nankai Trough.

Japanese researchers have been trying to establish scientific knowledge and to develop technologies and legal systems for disaster reduction and we have managed to reduce damage caused by natural hazards to lower levels than ever before. But based on the 2011 earthquake and tsunami disaster, we recognized that our knowledge and technologies were divided into each specialty and specialization has caused significant knowledge gaps and communication difficulties among specialties. Issues between specialties have not been tackled. We blindly believed only in our scientific knowledge and technologies. We should always question our knowledge and should have a sense of the awe and humility towards nature. With this serious reflection, all researchers in the field of earthquake disaster reduction in Japan, Prime Minister Shinzo Abe, Ministers of all disaster related ministries of the Government of Japan, and representatives of all concerning municipalities including the Mayor of Sendai City will work together to hold 17WCEE successfully. As shown in this Bid Proposal, in addition to conventional functions of WCEE, we propose to offer excellent opportunities and new ideas for both developed and developing countries to implement disaster resilient societies and to create new directions through integrating various fields.

If many member countries of IAEE support Japan as the venue for the 17WCEE, participants can observe the fully recovered areas affected by the 1995 Kobe earthquake, and ongoing recovery activities in affected areas due to the 2011 Great East Japan Earthquake and Tsunami. Moreover, various countermeasures for expected future earthquakes, such as inland in the Tokyo Metropolitan area and along the Nankai Trough can also be observed.

Sendai is called the “City of Trees” and it is the gateway to northern Japan with a mild climate and full of beautiful greenery, offering access to both traditional and modern culture. The coastal area of the city was devastated by the 2011 Tsunami and the city is now strongly moving forward as a role model for resilient recovery. In March 2015, Japan hosted the Third UN World Conference on Disaster Risk Reduction in Sendai and the “Sendai Framework for Disaster Risk Reduction” was adopted. Sendai has been a frontier city to implement earthquake disaster reduction programs. The city is located 90 minutes from Tokyo by Shinkansen (bullet train) and is closely located to the Sendai International Airport, with convenient convention facilities and hotels nearby. For these reasons, Sendai is the best place for 17WCEE.

I would really appreciate it if you kindly consider our proposal for the 17WCEE in Sendai City, Japan.  
Best regards,

Kimiro MEGURO  
President, Japan Association for Earthquake Engineering  
Chairperson, the Japan Bid Committee for 17 WCEE

4th floor, Kenchiku Kaikan Bldg. Shiba 5-26-20, Minato-ku, Tokyo, #108-0014, Japan

# Proposal

Date  
September 14-18, 2020

Venue  
Sendai International Center

City Profile  
Sendai is located about 350 km north of Tokyo and is the capital city of Miyagi Prefecture with a population of over one million people. Sendai is the largest city in the Tohoku Region. It is a big city where many buildings stand in lines, but shows beautiful scenes that harmonize with nature. On the roadsides of the city center the zelkova trees, a feature of the city, grow thick and rich green. The Hirose River flows through the central part of the city. It is famous for both science and culture, being home for over 20 leading universities and colleges, research institutes, museums, and other centers of learning, Sendai is known as an "Academic City".





# Why Japan for 17WCEE in 2020?

Japan is located in one of the most earthquake-prone places on earth, accounting for over 10% of all devastating earthquakes worldwide, including the 1995 Kobe Earthquake, the 2011 Great East Japan (Tohoku) Earthquake, and the most recent 2016 Kumamoto Earthquake.

## Active Arena of Earthquake Engineering

Japan has been an active arena of earthquake engineering and risk/crisis management to implement lessons learned and relearned from past damaging earthquakes. While the country is in a mature phase of recovery from the Kobe event, the areas affected by the Tohoku and Kumamoto events stand amid of the recovery progress. Moreover, Japan is now under a serious threat of scenario catastrophic quakes, and is quickly mapping out all possible mitigation strategies. The country's lessons learned on source mechanism, pattern of disaster, and influence on society, as well as bitter experiences due to past earthquake disasters, recovery and rebuilding, and challenges for future earthquake attacks would be undoubtedly relevant and useful for many other earthquake-prone countries in the world.



2016 Kumamoto

2011 Great East Japan

1995 Kobe

## Sharing Innovative Solutions and Reliable Technologies

After the 2011 event, national resilience against disasters has been an essential and strategic policy in Japan. To date, great efforts have been made towards earthquake disaster mitigation and various solutions incorporating innovative technologies and fresh ideas have been developed and implemented in Japan. The conference will hold an exhibition, in addition to the technical sessions, to display solutions, technologies, services etc. from 300 sectors and to share ideas for building a resilient society.

The Japan Bid Committee for the 17WCEE and its sponsors and supporters in the academic, professional and governmental fields are confident that researchers in Japan can make a tremendous contribution to their IAEE colleagues.



Large Scale Tests

World's Tallest Tower, Tokyo Skytree

Innovative Solution

## Visit Sendai and Find Recovery Efforts to Build Back Better

The conference venue will be in Sendai called "City of Tress", the gateway to northern Japan with mild climate and full of beautiful greenery, offering a close access to both traditional and modern culture. Sendai has been a frontier city to implement earthquake disaster mitigation programs, the best prepared and resilient city to earthquake disaster since the 1978 Sendai earthquake that caused extensive damage to its urban center. Study tours in the city will be an excellent chance to show you the current achievement on the city's urban planning for disaster mitigation, seismically upgraded buildings and infrastructures, modern structures with innovative technologies. Although the coastal areas of the city were devastated by the 2011 killer tsunami, they are currently moving forward as a role model for resilient recovery. Site tours at the coastal areas organized by the 17WCEE will offer a great opportunity to witness the recovery efforts in the affected areas to build back better.



Devastating Tsunami Damage

Recovery Efforts to Build Back Better in Coastal Areas

## Sendai, Center of Global Resilience Programs

After the 2011 Great East Japan Earthquake, the Japanese Government has been strongly implementing the National Resilience Program, and Sendai has been a major center of the national program. In March 2015, Sendai hosted the Third UN World Conference on Disaster Risk Reduction (WCDRR), and the "Sendai Framework for Disaster Risk Reduction" was adopted. Since then, many countries have started implementing measures for disaster risk reduction based on the Sendai Framework. It is therefore timely that Sendai, the center of the world-wide resilience programs, hosts the 17WCEE.

The Japan Bid Committee is strongly supported by the Japanese Government, Sendai City, and relevant central and local organizations. We are ready to warmly and heartily host the 17WCEE in Sendai, the origin of the global resilience programs.



Prime Minister Abe at the Third UN-WCDRR in Sendai

Greenery and Resilient Sendai



## Invitation Letter - Mayor of Sendai



November 1, 2016

To President of International Association for Earthquake Engineering

On behalf of the City of Sendai, I would like to sincerely welcome you to the City of Sendai as the stage of the 17WCEE convention to be held in 2020.

Sendai City, known as the “City of Trees”, is nestled in an area blessed with outstanding natural beauty. Additionally, Sendai has experienced several disasters such as the 1978 Miyagi-ken Oki Earthquake and has also learned lessons from other disasters that occurred in Japan. Based on this, Sendai implemented diverse measures for disaster prevention and disaster risk reduction and we built a city where citizens have a rather high awareness of disaster risks. However, when the Great East Japan Earthquake occurred in 2011, our city, especially the coastal areas, received extensive damage. We realized again that urbanized areas were still facing disaster threats. The five years after the disaster struck, until 2016, were deemed an intensive reconstruction period. During this time, we were committed to not only reconstruction of infrastructure but to promote disaster prevention by taking advantage of the local people’s spirit of independence and strongly united community.

Sendai regarded disaster prevention from various viewpoints and started a new city development plan of “Disaster-Resilient and Environmentally-Friendly City”. This is a mixture of “town planning” and the enhancement of disaster management of urban infrastructure with “people planning”, the support of disaster prevention by the power of Sendai residents and local regions.

In March, 2015, Sendai held the Third UN World Conference on Disaster Risk Reduction (WCDRR) and welcomed over 6,500 guests from over 185 countries to Sendai and this is the largest UN related international convention ever held in Japan. The result of the convention was the adoption of the international guideline “Sendai Framework for Disaster Risk Reduction 2015-2030” for the next 15 years.

We are adopting the global document and are working on reconstruction from the Great East Japan Earthquake and to promote a safer and more comfortable town development based on the disaster prevention framework “better reconstruction: Build Back Better”. Each participant of the 17WCEE will have the opportunity to examine the reconstruction of better facilities and experience the specific efforts achieved through a wide range of research and study undertaken by the International Research Institute of Disaster Science (IRIDeS) at Tohoku University.

We are confident that Sendai, historically a city having faced earthquakes and various disasters, combines the best conditions to hold the 17WCEE and that we can contribute greatly to the success of your convention through the promotion of exchange and lively discussion in earthquake engineering and related fields.

Last but not least, Sendai can offer delicious food and is an area blessed with unsurpassed hot springs. We believe your participants will be able to feel refreshed and this will contribute to the creation of productive output.

We assure you that we will use our experience of holding WCDRR and G7 Sendai Finance Ministers and Central Bank Governors’ Meeting to offer you maximum support to ensure your convention is a success in Sendai. We appreciate your favorable consideration of holding the 17WCEE in Sendai.

Yours sincerely,

奥山 恵美子

Emiko Okuyama

Mayor, City of Sendai

3-7-1 KOKUBUNCHO, AOBA-KU, SENDAI, MIYAGI 980-8671 JAPAN



## Sendai, the Resilient City

### Disaster-Resilient and Eco-Friendly City

With the affluent environment of Sendai - the City of Trees as our base, combining the experience in creating such a rich environment and the lessons learned from the Great East Japan Earthquake in 2011, the city is proceeding to build a disaster-resilient and eco-friendly city.

Not to mention a restoration effort from the disaster, we are promoting “urban development” by improving the resilience of infrastructure and energy supplies as well as promoting “cultivation of resilient communities” that will help support disaster risk reduction activities in local communities.

And we will continue to share information on our various efforts, communicating efforts by local communities, NPOs, businesses and research institutions by making use of the domestic and international networks. One of recent efforts is to hold “World Bosai Forum/IDRC 2017 in Sendai” in November 2017, co-hosting with Tohoku University and GRF Davos (Switzerland), to discuss how to promote the Sendai Framework for Disaster Risk Reduction. We will plan to hold World Bosai Forum regularly in Sendai.



### Urban Development

The city is implementing Disaster Risk Reduction (DRR) measures for a variety of urban utility systems and infrastructure, as well as making efforts to support the recovery of the eastern coastal areas from the tsunami damage and build more resilient communities. In addition, we are actively creating a base for disaster-resistant, energy-efficient decentralized energy sources and introducing renewable energy sources.



### Cultivation of Resilient Communities

“Self-help” by individuals to secure safety for ourselves, “mutual assistance” by members of the local communities to support one another, and “public support” from the government are integrated in a coordinated way to contribute to DRR. And to effectively promote DRR measures, we are promoting efforts by multi-stakeholders that include all residents from children to the elderly, regardless of gender or nationality, the presence or absence of disabilities.



### Our Experiences and Memories of the Great East Japan Earthquake to the Future and the World

We aim to pass on memories of the disaster through the establishment of a memorial center and the archiving of videos and photographs in collaboration with residents and community groups. As a city where the Sendai Framework was adopted at the Third UN WCDRR, we are also committed to passing on our experiences and lessons learned from the disaster in cooperation with local stakeholders, thus contributing to DRR in the world.





## Support Letter



October 6, 2016

Dr. Sudhir K. Jain  
President  
International Association for Earthquake Engineering



Dear Dr. Sudhir K. Jain,

I am writing this letter to ask for your consideration and support of the city of Sendai in Miyagi Prefecture as the host city for the 17<sup>th</sup> World Conference on Earthquake Engineering (WCEE), which is scheduled to be held in 2020.

The Ministry of Education, Culture, Sports, Science and Technology (MEXT) regards the promotion of education, science and technology, academic scholarship, cultural affairs, and sports as a prior investment toward the future. Utilizing innovative science and technology, MEXT is making all efforts to promote research and development in the field of earthquake disaster prevention and mitigation in Japan, which is a major earthquake-prone country.

Although Sendai City suffered serious damage in the 2011 Great East Japan Earthquake Disaster, Sendai city has made steady progress in its recovery. I believe that holding the 17<sup>th</sup> WCEE in Sendai, where participants can see Sendai's achievement in recovering from the major earthquake disaster, would have great appeal not only to specialists in earthquake engineering but also to those more widely involved in disaster prevention. Thus, Sendai city would make the 17<sup>th</sup> WCEE extremely meaningful and significant.

Moreover, 2020, in which the 17<sup>th</sup> WCEE will be held is the year of the Tokyo Olympic and Paralympic Games that JAPAN will host. We regard the Olympics not only as the world's premier sporting event but also as an invaluable opportunity to show the whole world what people can do so that Japan and the world can build a more prosperous society in the future.

Holding the 17<sup>th</sup> WCEE in such a year will surely be very meaningful for the International Association for Earthquake Engineering (IAEE), and it would greatly contribute to the advancement of the IAEE and the promotion of technical innovation in the field of earthquake engineering.

If Sendai is selected as the host city for the 17<sup>th</sup> WCEE, we sincerely look forward to welcoming all of you to Japan.

Sincerely,

Hirokazu Matsuno  
Minister of Education, Culture, Sports, Science and Technology of Japan

## Support Letter



Ministry of Land, Infrastructure, Transport and Tourism  
2-1-3 Kasumigaseki, Chiyoda-ku, Tokyo 100-8918, JAPAN

October 17, 2016

Dr. Sudhir K. Jain  
President  
International Association for Earthquake Engineering



Dear Dr. Jain,

I am writing to let you know of our strong support for the candidacy of the city of Sendai as a host for the 17th World Conference on Earthquake Engineering. As I understand that the conference is one of the most prestigious in its field, it would be a great honour for Japan if Sendai were selected as the conference venue.

As you may know, Sendai city and its environs suffered severe damage from the Great East Japan Earthquake and the following tsunamis in 2011. Since then, the resurgence of the devastated area has been a top policy objective of the Government of Japan, and our ministry has focused its efforts on giving improved resilience against earthquakes to the reconstructed infrastructure, restoring living standards and revitalizing the regional economy by using targeted government funding and policy measures, including tourism promotion.

In this regard, I believe that Sendai city's hosting of the 17th World Conference on Earthquake Engineering should have an enormously favourable impact on the region from the perspective of our policy objective. It would significantly benefit the city not only in terms of the area's reputation as a tourism destination with capabilities for hosting such large-scale conferences, but also in light of the local residents' pride in contributing to the progress of your association's activities by sharing the community's experiences with the participants.

I would also like to draw your attention to the fact that Sendai city is blessed with various conditions ideal for the venue of your conference. Despite being a city of one million residents and a hub of economic activities in north-eastern Japan, Sendai is known as "a city of trees." It is characterized by harmony between modernity and natural splendour. I am convinced that the conference participants' visit to Sendai will be a memorable one for them.

I hope my suggestion will be helpful for you. I would be grateful if your association kindly considers Sendai as the host city of the 17th conference.

Yours Sincerely,

Keiichi Ishii  
Minister  
Ministry of Land, Infrastructure, Transport and Tourism



## Support Letter



### CABINET OFFICE

September 30, 2016

Dear President, International Association for Earthquake Engineering

I am writing to you to convey my strong recommendation, as Minister of State for Disaster Management, for Sendai's hosting of the 17th World Conference on Earthquake Engineering in 2020.



Japan has experienced many large earthquake disasters such as the 2011 Great East Japan Earthquake disaster. Utilizing knowledge and technologies accumulated through our experiences and lessons learned from those earthquake disasters, the Government of Japan and the Japan Association for Earthquake Engineering have been actively cooperating in the efforts to reduce disaster risk around the globe. A great number of government officials, researchers and students from all over the world have visited various institutions and organizations in our country to study Japan's experiences and lessons from past large disasters, and they have been playing important roles in disaster preparedness and risk reduction in their countries. In addition, we have strengthened our disaster preparedness and risk reduction measures against a possible Tokyo Inland Earthquake in near future, for the 2020 Olympic and Paralympic Games to be held in Tokyo. Based on these perspectives, the year 2020 is the best timing for the 17th World Conference on Earthquake Engineering to be held in Japan.

Sendai, the candidate city of the 17th World Conference on Earthquake Engineering, is one of the areas devastated by the large earthquake and tsunami in 2011. In 2015 the city hosted the third UN World Conference on Disaster Risk Reduction, where the Sendai Framework for Disaster Risk Reduction 2015-2030 was adopted as an outcome of the conference. I am confident that Sendai is the most appropriate city to host the 17th World Conference on Earthquake Engineering. It is very significant that many earthquake engineers and researchers will visit the devastated areas realizing the concept of "Build Back Better" as advocated in the Sendai Framework.

We sincerely look forward to welcoming all participants to Japan, and we truly hope that the conference will be held in Sendai.

Yours faithfully,

Jun MATSUMOTO  
Minister of State for Disaster Management  
Government of Japan

## Support Letter



October 19, 2016

Dr. Sudhir K. Jain  
President  
International Association for Earthquake Engineering



Dear Dr. Sudhir K. Jain

I would like to indicate my strong support for Sendai, Japan, as the host city for the "17th World Conference on Earthquake Engineering", and my belief that the hosting of this significant meeting in Sendai will also lead to the reconstruction of the Tohoku area.

As I am sure you are aware, Sendai was devastated by the Great East Japan Earthquake and subsequent tsunamis that occurred on March 11, 2011. Since then, the Government of Japan has been committed to positioning the area's recovery from the Great East Japan Earthquake as our most important challenge. As a result of a number of steps taken to accelerate the reconstruction by the Reconstruction Agency, the reconstruction of housing with the construction of uplands and large-scale land elevation, for example, has come to an important part, and in the five years since the earthquake, Tohoku has undergone a steady recovery. Rather than a mere restoration, we are promoting efforts to create a New Tohoku, aiming at even better recovery through the promotion of tourism and the creation of new business. In 2020, Japan will also be hosting the Tokyo Olympic and Paralympic Games. We will continue to further accelerate the pace of reconstruction in Tohoku, as we set our eyes on the "Olympic and Paralympic Games for Recovery."

I believe that the hosting of such a large scale international conference as the "17th World Conference on Earthquake Engineering" in Sendai would be very significant from the perspective of tourism promotion as well, as it would also lead to the reconstruction of Sendai and Tohoku.

Sendai, one of the candidate sites, in itself is a large city, but in the suburbs, there exist historic hot springs and Matsushima, one of the three most scenic spots in Japan, where the participants can enjoy the rich natural landscapes. Sendai is also proceeding to build a "Disaster-Resilient and Environmentally-Friendly City," based on the lessons learnt from the Great East Japan Earthquake. With the hosting of this conference in Sendai, I am confident that the participants will be able to enjoy the beautiful sceneries, and we will be able share the knowledge learnt from the earthquake that occurred in this place with them, which will contribute further to the development of the International Association for Earthquake Engineering.

I would be pleased to welcome you and participants to Japan and have strong hopes for the hosting of this conference in Sendai.

Yours sincerely,

Masahiro Imamura  
Minister  
Reconstruction Agency



## Support Letter



Japan Tourism Agency Ministry of Land, Infrastructure, Transport and Tourism

September 16, 2016

Dr. Sudhir K. Jain,  
President  
International Association for Earthquake Engineering

Dear Dr. Jain,



It is my great pleasure to support Sendai City in its candidacy to be the host city of the 17th World Conference on Earthquake Engineering (17WCEE). I believe that this conference is one of the most significant and prestigious international gatherings in the field and that it would be a great honor not only for Sendai City but also for Japan if the city is selected as the place to host it.

While earthquakes may occur in any region or in any country, Japan has historically experienced severe earthquake damages with relatively higher frequency. The 2011 Great East Japan Earthquake was the most powerful one ever recorded to have hit our country and Sendai City was at the center of the devastated area.

Thanks to heart-warming assistance and supports from around the world, the affected municipalities including Sendai City have been steadily recovering from the damage. In my view, the 17WCEE, if it is held in Sendai City, would enable its participants from abroad to share the city's precious experience and lessons obtained and accumulated there since 2011 and thus would contribute to activities of your association in various aspects.

I also would like to let you know that Sendai City, with its extensive facilities conveniently located in its downtown, has rich experiences of hosting large-scale international conventions. The city's attractiveness as the venue should be even more clear when you find that in its vicinity it has a lot of major tourism destinations suitable for the participants' extracurricular program. For example, the participants will be able to enjoy combination of Japanese traditional art, architecture and scenic beauty by visiting Chusonji Temple, a UNESCO World Cultural Heritage, or to indulge in culinary delights with seafood and mountain delicacies of which people of Sendai City are proud.

We are convinced that Sendai City is well qualified for successfully holding the 17WCEE and our Agency sincerely looks forward to welcoming all the participants to Japan on that occasion.

Sincerely yours,

  
Akihiko Tamura

Commissioner of the Japan Tourism Agency  
Ministry of Land, Infrastructure, Transport and Tourism

## Support Letter



October 21, 2016



Dr. Sudhir K. Jain,  
President  
International Association for Earthquake Engineering

Dear Dr. Jain,


I would like to extend my sincere support for Sendai, the largest city in northeast Japan, as a candidate city for hosting the 17<sup>th</sup> World Conference on Earthquake Engineering (17WCEE).

As you know, the 2011 Great East Japan Earthquake and Tsunami inflicted heavy damage on the city of Sendai. However, thanks to tremendously warm assistance from all over the world, the city is making a rapid progress of recovery. Hosting 17WCEE will be a timely opportunity for Japan to show our appreciation by welcoming the delegates to the city and to introduce the remarkable progress of restoration.

The candidate city of Sendai is known as "the City of Trees" and blessed with a rich history of prosperity and cultural sophistication. I assure you that all your delegates will enjoy Japan's impeccable service and the safety of our cities, and I am convinced that holding this conference in Sendai will ensure a memorable and successful meeting for your delegates.

As president of the Japan National Tourism Organization, I encourage you to select Sendai as the site for your conference, and I look forward to the pleasure of welcoming your delegates to Japan.

Yours sincerely,

  
Ryoichi Matsuyama  
President  
Japan National Tourism Organization

New ideas start here



17WCEE Proposed Program

The Japan Bid Committee for the 17WCEE proposes to offer, in addition to the conventional function of WCEE the following new ideas and excellent opportunities to create new directions through integrating interdisciplinary fields of earthquake engineering via information science exploring better ways to communicate and to engage experiences with society through various efforts.

1. Program Enhancement

(1) New Poster Presentation Schemes:  
Indexed Oral and Poster Presentation

As the number of conference participants has been increasing significantly, it is time to offer a new presentation style in addition to the conventional oral and poster presentations. The newly proposed Indexed Oral and Poster Presentation is designed to provide each presenter with the means to better transmit his/her research findings as well as to facilitate discussions between presenters and the audience. In the new style presentation, each presenter gives a 2 minute oral presentation, and the audience will be then requested to move to a separate poster session room. The audience can have detailed discussion with the presenter in front of his/her poster set up in advance.

(2) Special Sessions with Extended Preparation Periods

A conventional special session may normally have a preparation period of several months. Topics are proposed by the conference participant or his/her group 1 year prior to the conference, and will be reviewed and selected by the 17WCEE Organizing Committee. In addition to the normal session above, another type of session with 2.5 years of preparation period prior to the conference is proposed. This style will require well-coordinated and well-organized investigations by the session members. The topic will be solicited to general participants 3 years before the conference. The 17WCEE Organizing Committee will also invite topics proposed in the following (3) through (5).

(3) Brainstorming Sessions for New Directions of Earthquake Engineering

In the world conference, opportunities to discuss and share ideas for research agenda to be implemented in the earthquake engineering community with future perspective in mind is of great importance as well as to present, as has been conventionally made, research achievement and outcomes. This program will propose pre-conference discussions on research agenda to be implemented for the coming 10 years, looking 30 years ahead to the future, including international collaborations to future goal and challenges in earthquake engineering. Each agenda will be selected from various fields and will be further discussed at the 17WCEE sessions. The discussion results will be published as the WCEE special report under the name of the session group. The sessions are most

encouraged to be organized and participated by the next generation researchers.

(4) Blind Analysis Contests - Advances in Numerical Simulation Technologies

The proposed program will contain blind analysis contests with the support of Japanese institutions that can provide necessary data. Topics will be selected to encourage both academia and industries to participate in the contests. The contest will be made focusing on prediction accuracy in different fields: prediction of ground motions at different depth for a given soil profile and bedrock motions; prediction of tsunami wave at a specified coast geometry for a given crustal deformations in the ocean; prediction of dynamic behavior of full-scale structures tested on shake table for a given structural data and input motions. Contest results will be announced 6 months before the WCEE and winners will be invited to submit papers for invited presentations.

(5) Young Researchers Session and Awards

As the size of conference grows, it becomes more difficult especially for young researchers to enjoy their attendance, since they have a limited number of international acquaintances to socialize with, and a limited time of presentation and discussion. The Japan Bid Committee considers giving more international Exposures and incentives to the young researchers for the future development of the earthquake engineering. Financial supports covering the conference registration fee and full or partial support for travel expenses will be provided to encourage and recognize promising young researchers. The recipients will be selected based on applications, paper submissions, and review results by designated senior reviewers. The recipients will be invited to the specially organized session.



(6) Disaster Risk Reduction EXPO (Bosai EXPO)

To date, great efforts towards earthquake disaster mitigation have been made and various solutions, ranging from small size equipment to large scale facilities, have been developed and implemented to the society in Japan. This exhibition, expecting 300 exhibitors participation, will display products, technologies, and services in the scope of "risk/crisis management" and "resilience" of production equipment and the society's infrastructure as well as of countermeasures against earthquake disasters. This will also offer great opportunities for implementing solutions and sharing ideas/technologies locally available as well as highly advanced to the visitors and for technical information exchanges to the exhibitors who are engaged in manufacturing, government offices, local public municipalities, transportation, lifelines, and construction.

(7) 3DVR Site Visit of Earthquake Ruins after the Great East Japan Earthquake

Site visits to areas, structures, facilities, etc. which experienced damaging earthquakes are undoubtedly valuable to learn impacts and damaging effects from earthquakes. Although some of the damages are carefully preserved as earthquake memorials, many are demolished and renewed in the process of restoration. Recent development of information technology enables to digitally record the whole spatial data of earthquake ruins, and reproduce the image virtually in the three dimensional cyberspace. This program will provide opportunities to explore and experience damaged structures after the 2011 Great East Japan Earthquake through 3D virtual reality image.

2. Schedule

		Day 1	Day 2	Day 3	Day 4	Day 5
	Sept. 13 Sunday	Sept. 14 Monday	Sept. 15 Tuesday	Sept. 16 Wednesday	Sept. 17 Thursday	Sept. 18 Friday
9:00		Opening	Keynote Session	Keynote Session	Keynote Session	Keynote Session
10:00		Ceremony & Keynote Session	Parallel Sessions	Parallel Sessions	Parallel Sessions	Parallel Sessions
11:00			Poster Sessions	Poster Sessions	Poster Sessions	
12:00						
13:00		Lunch	Lunch	Lunch	Lunch	Lunch
14:00			Keynote Session	Keynote Session	Keynote Session	Parallel Sessions
15:00	Registration & Tour-Desk Open	Parallel Sessions	Parallel Sessions	Parallel Sessions	Parallel Sessions	Closing Session
16:00						
17:00						
18:00						
19:00		Welcome Reception		Gala Dinner		

\*Technical visits will be organized after conference.

3. Budget Plan

Two different budget estimates have been prepared, with the assumed number of participants being 3,000 and 4,000, respectively. The registration fee will be \$700 for a regular participant and \$450 for a student. We will also offer early-bird discount fees for each participant category. The Japan organizing committee for the 17WCEE will transmit five percent of the registration fee of each full registrant to IAEE, as the fee to cover operating expenses of IAEE central office.

\*assumed future exchange rate of 1 USD = 120 JPY





## Technical Visits

We share the knowledge and lessons learned from damaging earthquakes. Organized technical visits to ongoing recovery areas after the 2011 Great East Japan Earthquake, fully recovered Kobe earthquake in 1995, well prepared Tokyo after the Olympic/Paralympic Games etc. will contribute to sharing experiences and ideas for resilient cities in earthquake-prone areas.

Fukushima Dai-ichi Nuclear Power Station  
on decommissioning and other coastal areas

other areas



Recovered Kobe, recovering Kumamoto, and more...



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Geoparks – Traces of massive damage



in the area

Survived buildings and infrastructures retrofitted before events



18

Tsunami remains after killer waves



Ongoing recovery efforts along coastal areas



Today

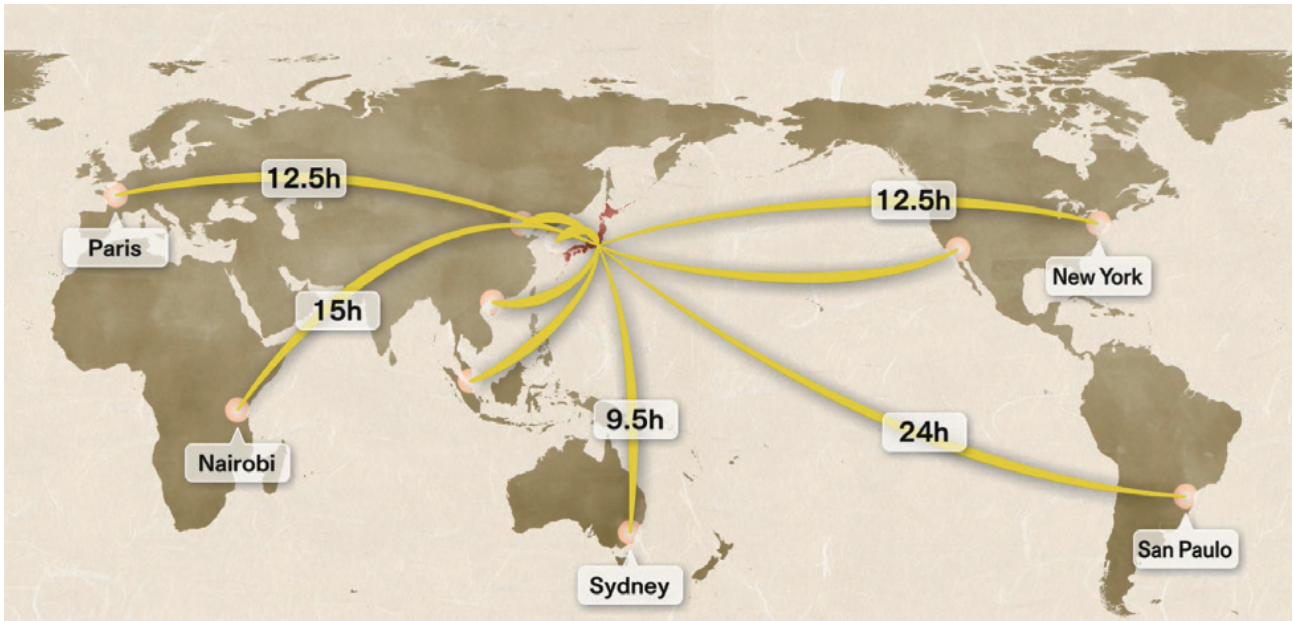


# 17WCEE Logistic Information

## Access

### World ➡ Japan

Getting to Japan from anywhere in the world is easy, thanks to many international flights to Tokyo's two international airports, Haneda and Narita. The two airports handle together more than 2,200 international flights weekly from over 100 cities in around 40 nations on more than 70 airlines. Proximity and extensive air service make Japan an especially effective country for attracting convention participants from all over the world. In addition, there are several international direct flights including daily flights from Seoul to Sendai.



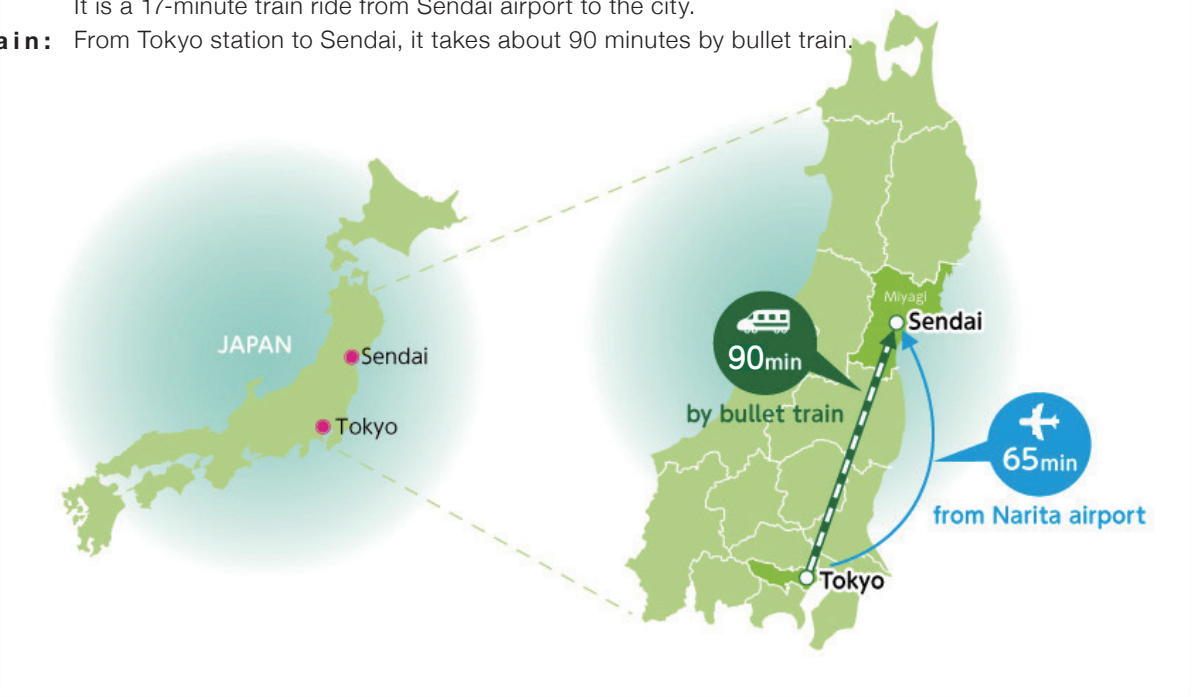
- More than **2,200 flights** weekly from **around 40 countries**.
- Direct flights to Tokyo from over **100 cities** around the world.

### Tokyo ➡ Sendai

Sendai is a city in the northeast of Japan and the largest city of this region.

**By Airplane:** From Tokyo, Narita Airport to Sendai it takes 65 minutes by plane, and there are daily two flights. It is a 17-minute train ride from Sendai airport to the city.

**By Train:** From Tokyo station to Sendai, it takes about 90 minutes by bullet train.



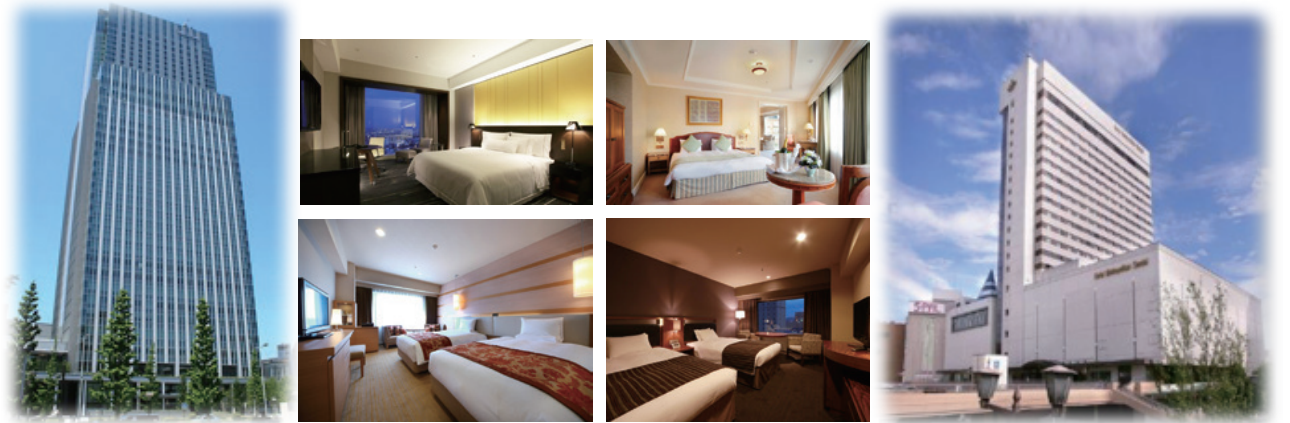
### Sendai Station ➡ Conference Venue

From Sendai Station to the conference venue, it is a 5-minute ride by the subway (Tozai Line), a 10-minute ride by taxi and a 30-minute walk.



## Accommodation

Sendai has over 12,000 hotel rooms in various price ranges, as shown in the table below. Within a 2 km radius of the International Center, there are 8,000 hotel rooms.



The Westin Sendai

Hotel Metropolitan Sendai

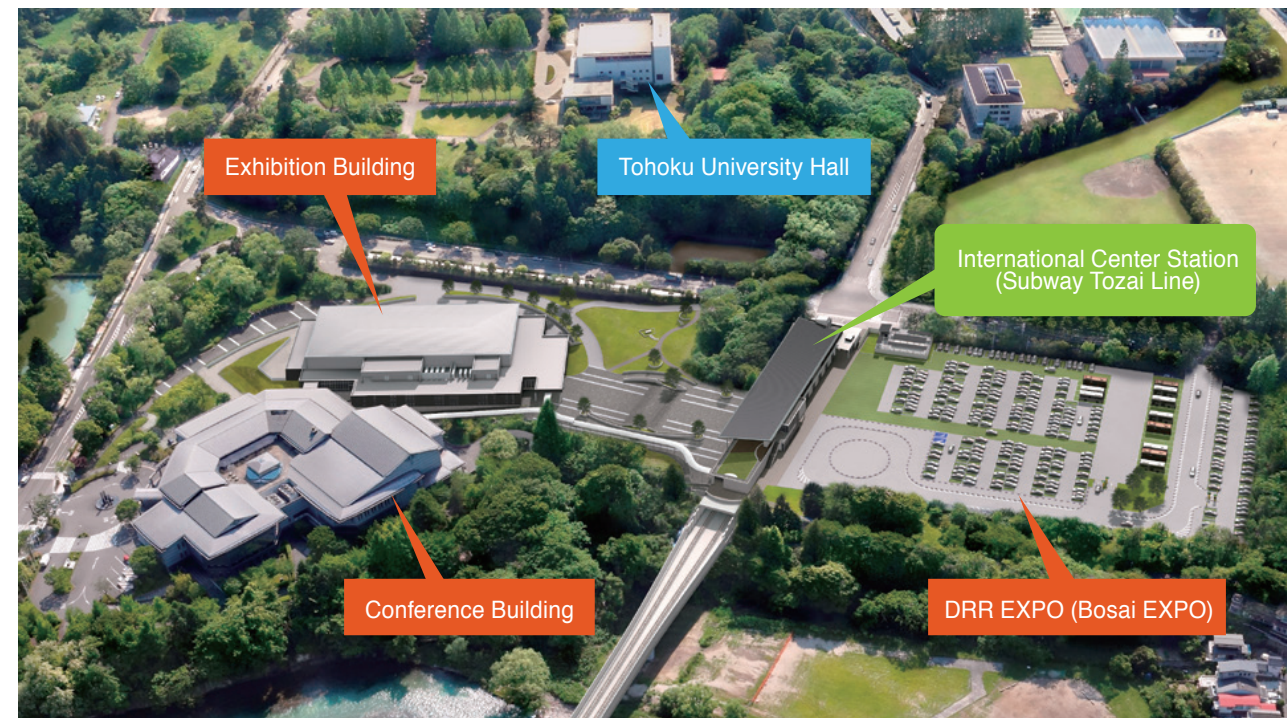
Star Rating	Number of Hotels	Number of Rooms	Average Room Rate (USD)
★★★★★	3	761	\$150
★★★★	12	2,299	\$100
★★★	21	4,110	\$ 70
★★	28	3,617	\$ 50
★	31	1,867	\$ 35
Total	95	12,654	

as of January 2016



## Venue

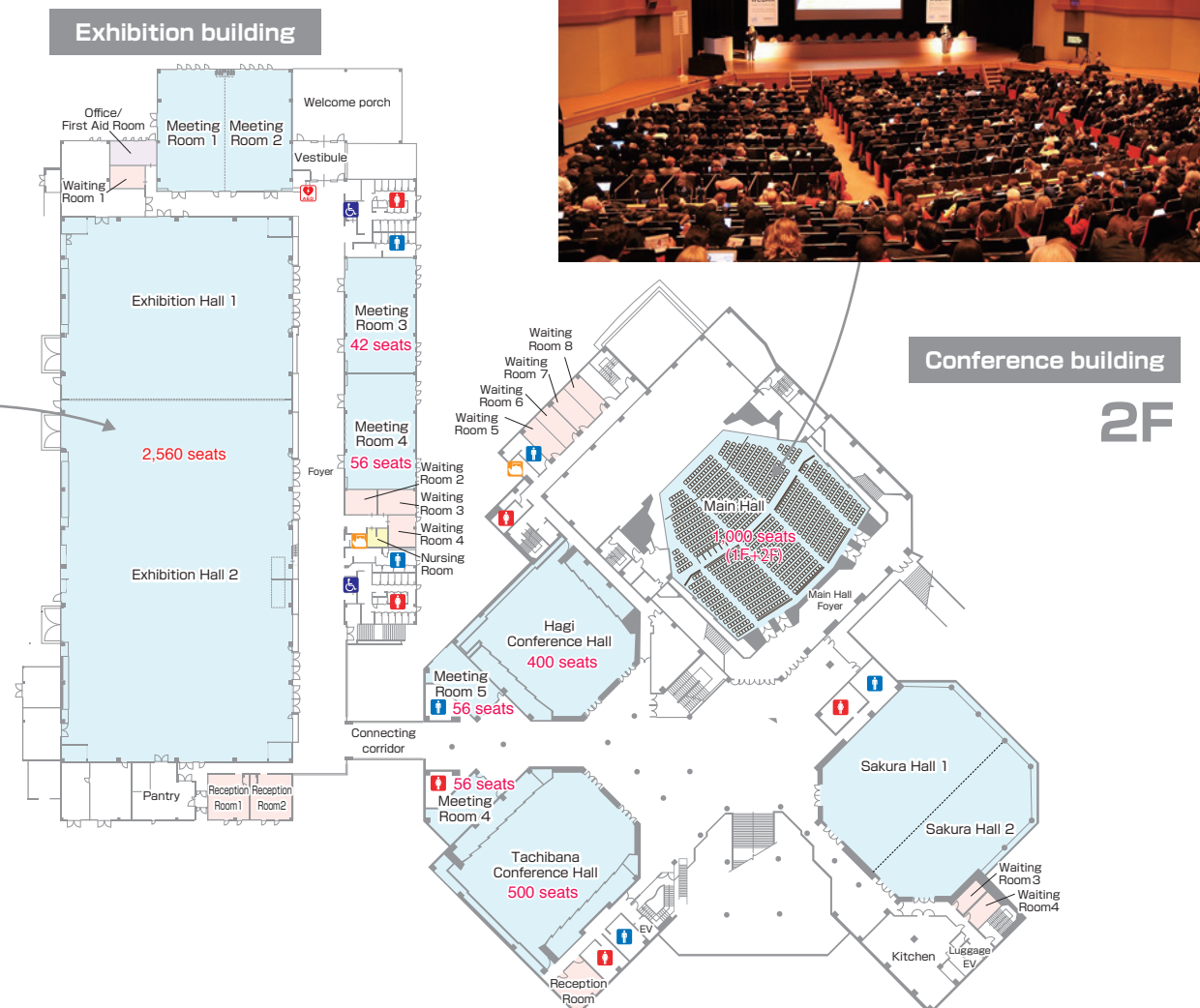
The conference venue is directly connected to the subway station. Sendai International Center consists of two main buildings; the conference building and the exhibition building. The conference building has a main hall and a reception hall, together with 12 meeting rooms. The exhibition building has a 3,000 m<sup>2</sup> exhibition hall with 4 meeting rooms. Utilizing these two buildings as one facility, a convention with up to 6,000 participants can be held.



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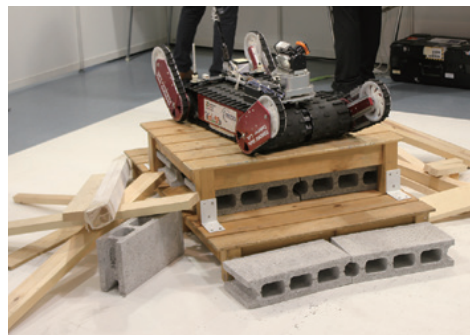
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## Disaster Risk Reduction EXPO (Bosai EXPO)

### Special Exhibition of Technologies for Earthquake Disaster Risk Reduction

For earthquake disaster reduction, it is essential to promote research. However, without implementation of concrete countermeasures based on the results of academic research, it is impossible to reduce damage in future. In 17WCEE, the special exhibition will be held to introduce technologies, systems, tools, equipment, and educational materials, etc., which can contribute to the realization of a disaster resilient society, to the WCEE participants from all over the world.

In the space adjacent to the conference venue, over 300 companies and organizations will participate in the exhibition. They will demonstrate their various technologies, which can promote both structural and non-structural countermeasures in both developed and developing countries. Also, they will prepare consultation windows for the participants.



Third UN-WCDRR



## Social Events

### Welcome Reception

is the opportunity for participants to meet their old friends and make new networks.

We will welcome you and your international colleagues with the best atmosphere, local food and performances.



### Dinner at Historical Venue

Sendai Shozankan is a historical venue (former Sake brewery) in Sendai. Its beautiful Japanese garden is used as a welcome facility for special Japanese hospitality to entertain guests. You will enjoy both Japanese and western dishes using local food of the sea and the land.

### Local Entertainment

The martial art performance of samurai warriors will satisfy your curiosity towards Japanese warriors history. They will set the mood for your party with their energetic welcomings.



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## Accompanying Persons Programs

Introducing plans to enjoy the delights of Japanese culture.

You can easily experience Japanese culture such as Ikebana (flower arranging), the tea ceremony, Japanese calligraphy or trying on a Kimono if you have 1 or 2 hours to spare.



Beginners can experience craft activities such as glass craft or painting kokeshi wooden dolls at Akiu Traditional Crafts Village located in an onsen (hot spring) resort area on the outskirts of Sendai. We recommend this as an excursion trip.





## Tourist Attractions

Take a peek of the city

All available within 30 minutes from the venue! 100

Go around the city by tour bus



Rent-a-bike

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Try Sendai Beef



Enjoy Sushi

Relax in the nature and hot spring



Visit the whisky distillery

If you have a day, explore Japan!

- Hokkaido is a great place to enjoy nature and hot springs.
- Don't miss Tokyo to experience spectacular entertainment.
- Kyoto will take you back to the ancient period of Japan.



Hokkaido – 70min by Plane



Osaka – 80min by plane



Tokyo – 90min by Bullet Train

Kyoto – 15min from Osaka



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## In Summary - Why Japan / Sendai?

- ✓ Japan is an active arena of earthquake engineering and new technology solutions
- ✓ Find out more about the progress and recovery efforts Sendai is making after the Great East Japan Earthquake
- ✓ Visit the home of the substantial “Sendai Framework for Disaster Risk Reduction 2015-2030”
- ✓ An original conference program with excellent opportunities to create new directions and offer pioneering ideas
- ✓ Explore essential methods Sendai is undertaking to cultivate a resilient community
- ✓ Find out more innovative solutions and cutting edge technologies made in Japan at the “Disaster Risk Reduction EXPO”
- ✓ A city ready to host 17WCEE with more than 4,000 participants expected in its large scale international conference center and exhibition buildings
- ✓ A committed and experienced local organizing committee
- ✓ A strong budget and superb financial management
- ✓ Enjoy Sendai’s attractiveness as a tourism destination with its various hotels with enough capacity, excellent dining and outstanding entertainment options

**WE LOOK FOWARD TO SEEING YOU IN  
SENDAI, JAPAN!**



JAEE

JAPAN ASSOCIATION FOR  
EARTHQUAKE ENGINEERING