

MMBD 2026

The 7th International Conference on
Modern Management based on Big Data

Conference Program

July 15-18, 2026
Matsue, Japan



**HANNAN
UNIVERSITY**



HKU SAAS Data Science Lab

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Part I Conference Committee

Conference General Chair

Prof. Yoshihiro Hamaguchi, Hannan University, Japan

Technical Program Committee (TPC) Co-Chairs

Prof. Nao-Aki Noda, Kyushu Institute of Technology, Japan

Prof. Kazuhiro Oda, Oita University, Japan

Technical Program Committee (TPC) Members*

Dr. Omid M. Ardakani, Professor of Economics, Parker College of Business, Georgia Southern University, USA

Dr. Otmane Azeroual, Senior Researcher and Lecturer, German Centre for Higher Education Research and Science Studies (DZHW), Germany

Dr. Antonio J. Tallón-Ballesteros, Professor, Department of Electronic, Computer Systems and Automation Engineering, University of Huelva, Spain

Dr. Rocky J. Dwyer, Professor, College of Management and Human Potential, Walden University, USA

Dr. Ljupcho Efremov, American University of the Middle East, Kuwait

Dr. Luís Gomes, Professor, Polytechnic of Porto, Portugal

Dr. Adela Lau, Deputy Director of Data Science Lab, School of Computing and Data Science, The University of Hong Kong

Dr. Chien-Sing Lee, Professor, School of Computing and Artificial Intelligence, Sunway University, Malaysia

Dr. Galina Ilieva, Professor, Department of Management and Quantitative Methods in Economics, University of Plovdiv Paisii Hilendarski, Bulgaria

Dr. Daoji Li, Associate Professor, Department of Information Systems and Decision Sciences, College of Business and Economics, California State University, USA

Dr. Sangsoon Lim, Assistant Professor, Department of Computer Engineering, Sungkyul University, South Korea

Dr. Jesús Barrena-Martínez, Associate Professor, Faculty of Business and Economics, University of Cadiz, Spain

Dr. Giuseppe Orlando, Professor, Department of Economics and Finance, Department of Mathematics, University of Bari, Italy

Dr. Dragan Pamucar, Professor, Faculty of Organizational Sciences, University of Belgrade, Belgrade, Serbia

Dr. Víctor-Hugo Perera Rodríguez, Professor, Universidad de Sevilla, Sevilla, Spain

Dr. Angeles Sánchez, Associate Professor, Department of Applied Economics, University of Granada, Spain

Dr. João Rodrigues dos Santos, Professor, Universidade Europeia, Portugal

Dr. hab. eng. Piotr Sliż, Professor, Department of Organization and Management, University of Gdansk, Poland

Dr. Gautam Srivastava, Professor, Department of Computer Science, Brandon University, Manitoba, Canada

Dr. Jakkrit Thavorn, Assistant Professor, Faculty of Commerce and Accountancy (Thammasat Business School), Thammasat University, Thailand

Dr. Ricardo Vicente, Professor of Instruction in Finance, Naveen Jindal School of Management, University of Texas at Dallas, USA

*List in alphabetical order by Last Name from A to Z.

Part II Conference Schedule Summary

Wednesday July 15, 2026

Time	Activity
14:00-18:00	Registration

Thursday July 16, 2026

Time	Activity
09:00-09:05	Welcome Speech
09:05-09:45	Keynote Speech 1
09:45-10:25	Keynote Speech 2
10:25-11:00	Group Photo Coffee Break
11:00-11:40	Keynote Speech 3
11:40-12:00	Invited Speech 1
12:00-14:00	Lunch Break
14:00-16:30	Invited & Oral Session 1

Friday July 17, 2026

Time	Activity
09:00-12:00	Invited & Oral Session 2
12:00-14:00	Lunch Break
14:00-17:10	Invited & Oral Session 3
17:40	Set off for the Awarding Banquet
18:15-20:30	Awarding Banquet

Saturday July 18, 2026

Time	Activity
09:00-15:00	One Day Tour in Matsue

Part III Conference Program in Details

DAY 1 | July 15, 2026

Location: Corridor outside Meeting Room 501, Kunibiki Messe

14:00-18:00 **Registration**

Note for registration:

* Please show us your name or abstract / paper number for registration.

* Please pick up all the conference materials at the registration desk (Name Tag, Conference Program, Lunch & Dinner Tickets etc.).

DAY 2 | July 16, 2026

Location: Meeting Room 401, Kunibiki Messe

Host: Prof. Dimiter Velev, *University of National and World Economy, Bulgaria*

09:00-09:05 **Opening Speech**

General Chair: Prof. Yoshihiro Hamaguchi, Hannan University, Japan

09:05-09:45 **Keynote Speech 1:** On Complexity of Digitalization and Management Innovation in the Light of Complexity Theory and the General Economic Theory

Prof. Wei-Bin Zhang, Ritsumeikan Asia Pacific University, Japan

09:45-10:25 **Keynote Speech 2:** A Review of the Impact of Digitalisation, Big Data, and AI in Society 5.0 on the Four Major Hypotheses and Income Inequality

Prof. Yoshihiro Hamaguchi, Hannan University, Japan

10:25-10:45 **GROUP PHOTO**

@ Ground Entrance, Kunibiki Messe

10:45-11:00 **COFFEE BREAK**

@ Corridor, Meeting Room 401

11:00-11:40 **Keynote Speech 3:** Future Trend of Big Data Analytics: Quantum Computing

Dr. Adela Lau, The University of Hong Kong

11:40-12:00 **Invited Speech 1:** Synergistic Innovation Model in Education Integrating Mathematics, Computer Science, and Generative AI

Prof. Dimiter Velev, University of National and World Economy, Bulgaria

12:00-14:00 **LUNCH BREAK**

Invited & Oral Session 1: Oral Session on Modern Management based on Big Data

Session Chair: Prof. Dimiter Velev, University of National and World Economy, Bulgaria

14:00-14:20 **Invited Speech 2 MMBD1603:** Unlocking Digital Value: Why Servitization and Innovation Matter

Prof. Bang-Ning Hwang, National Yunlin University of Science & Technology

14:20-14:35	MMBD1616: Information Acquisition and Knowledge Transmission in the Age of AI Assoc. Prof. Michael Sockin , The University of Texas at Austin, USA
14:35-14:50	MMBD1589: Enhanced Digital Twin Framework for Natural Disaster-Aware Critical Infrastructure Simulation Prof. Plamena Zlateva , University of National and World Economy, Bulgaria
14:50-15:05	MMBD1523: AI-Driven Recruitment: Efficiency, Ethics, and Human Judgment Prof. Mariza Tsakalerou , Nazarbayev University, Kazakhstan
15:05-15:30	COFFEE BREAK @ Corridor, Meeting Room 401
15:30-15:45	MMBD1576: A Predictive Smart Supply Chain Performance Integrated Marketing Index Approach Using SCOR and Topic Modeling Early KPI Detection Prof. Rui-Yang Chen , Aletheia University
15:45-16:00	MMBD1581: The Role of Professionals in Bookkeeping and Administration in the Era of Big Data Dr. Mohamad Reeduan Mustapha , Universiti Malaysia Pahang Al-Sultan Abdullah, Malaysia
16:00-16:15	MMBD1528: Text Mining and Assessment of Policy Quality for Industrial Cluster Initiatives: Empirical Analysis from Xinjiang Utilizing an LDA–PMC Integrated Model Prof. Juanjuan La , Xinjiang University, China
16:15-16:30	MMBD1558: External Influencing Factors and Consumer Behavior in Cross-Border E-Commerce: A Data-Driven Analysis of Chinese Purchase Decisions Dr. Qiang Zhang , Xiamen Institute of Technology, China

DAY 3 | July 17, 2026

Location: Meeting Room 401, Kunibiki Messe

Invited & Oral Session 2: Special Session on "The Potential of Big Data, Digitalization and AI in a Sustainable Economy"

Session Chair: Prof. Yoshihiro Hamaguchi, Hannan University, Japan

09:00-09:20	Invited Speech 3 MMBD1536: From Strategy to Execution: How Enterprise Architecture Bridges Business and IT as a Strategic Enabler of Digital Transformation Assoc. Prof. Martin Lukáš , Czech University of Life Sciences Prague, Czech Republic
09:20-09:40	MMBD1565: Navigating Corporate Development through Digital Trust in the Age of Generative Artificial Intelligence (GenAI) – A Cross-National/Industrial Practice and Comparative Study Prof. She-I Chang , National Chung Cheng University
09:40-09:55	MMBD1586: The Role of Information and Communication Technologies (ICT) in Facilitating Green Economic Performance: Evidence from Developing Nations Dr. Xuan-Hoa Nghiem , Vietnam National University, Vietnam
09:55-10:10	MMBD1557: Digitalization in Megaprojects: Stakeholder Governance, Hope, and Project Resilience Dr. Baris Morkan , Independent researcher in USA

10:10-10:25	MMBD1569: Building a Resilient Innovation Ecosystem in Oman Through Digital Transformation and Artificial Intelligence Dr. Najiba Said Hamed Al-Zadjali , University of Technology and Applied Sciences, Oman
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10:25-10:40	MMBD1545: AI-Driven Governance and Business Model Circularity: A Multi-Agent Simulation of the Sustainable Digital Economy in Resource-Dependent Regions Prof. Lu Zhang , Inner Mongolia University of Technology, China
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10:40-11:00	COFFEE BREAK
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Below are pre-recorded video oral presentations. Please watch the videos online via (<http://www.academicconf.com/video?confname=mmbd2026>) during the conference period.

11:00-11:15	MMBD1574: Demystifying How AI Transforms HRM Practices Through the Lens of Employee Life Cycle Dr. Ljupcho Efremov , American University of the Middle East, Kuwait
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11:15-11:30	MMBD1561: Design and Validation of LoopCart to Encourage Sustainable Circular Economy for E-Commerce in Malaysia Mr. Jun-Wei Chong , Sunway University, Malaysia
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11:30-11:45	MMBD1559: A Competency Compass for Improving Homestay Operating Quality: Identifying and Validating the Competency Structure of Homestay Operators Ms. Qiaoyi Zou , Hunan Normal University, China
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11:45-12:00	MMBD1567: Modeling Cultural Narrative Mechanisms of Xiang Cuisine on Social Media: A Multi-Modal Deep Learning Approach Ms. Jiaxin Deng , Heilongjiang Bayi Agricultural University, China
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12:00-14:00	LUNCH BREAK
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Invited & Oral Session 3: Track on "Applied-education and applied-research in AI, Data Science, and Web6.0", the Second Edition

Track Chair: Dr. Adela Lau, Deputy Director of HKUSAAS Data Science Lab, Division of Statistics and Actuarial Science, School of Computing and Data Science, The University of Hong Kong

14:00-14:15	MMBD1590: Digital Dualism: Legal Status of Civilian Datasets as Legitimate Military Targets in the Age of AI Prof. Dimiter Velev , University of National and World Economy, Bulgaria
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14:15-14:30	MMBD1612: Efficient Frontend for Microservice-based Applications Dr. Martin Bobak , Institute of Informatics, Slovak Academy of Sciences, Slovakia
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14:30-14:45	MMBD1541: Utilizing Humanoid Robots as Learning Companions in Promoting Foundational Learning Mr. Oskar Lorenz , Technical University of Applied Sciences Wildau, Germany
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14:45-15:05	COFFEE BREAK
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Below are pre-recorded video oral presentations. Please watch the videos online via (<http://www.academicconf.com/video?confname=mmbd2026>) during the conference period.

15:05-15:25	Invited Speech 4 MMBD1568: Beyond Prediction: Explainable AI for Gender Segment Classification in Fashion E-Commerce Prof. Filiz Ersöz , Ostim Technical University, Turkey
15:25-15:40	MMBD1533: An Interpretable Hybrid Expert–Deep Learning Framework for Automated SEO Ranking Optimization Dr. Belabed Imane , University Mohammed the First, Morocco
15:40-15:55	MMBD1599: Using a Novel Multi-stage of TF-IDF, TextRank and KeyBert for Market Campaign Analysis Mr. Jinhong Chen , The University of Hong Kong
15:55-16:10	MMBD1605: Using a CNN Model and Wavelet Transform with Differential Entropy for Improving EEG Based Emotion Recognition Mr. Wenbo Fang , The University of Hong Kong
16:10-16:25	MMBD1607: A Novel CreditCopilot-HK System by Integrating Credit Scoring, Complaint Analytics and Chatbot for Auditable Credit-Risk Decision Support Mr. Mingtian Xiong , The University of Hong Kong
16:25-16:40	MMBD1609: A Data Mining and Text Analytics Platform for Prediction-Market Information Discovery Mr. Jialin Liu , The University of Hong Kong
16:40-16:55	MMBD1613: A Credit Risk Chatbot by Using TF-IDF, XGBoost, and Random Forest for Improving Credit Risk Measurement Mr. Benhao Wang , The University of Hong Kong
16:55-17:10	MMBD1614: HypeScope: Visual Analytics and Conversational Decision Support for Narrative-Driven AI Startup Intelligence Mr. Yifan Wang , The University of Hong Kong

AWARDING BANQUET

@YUUSHIEN Garden in Daikonshima

17:30	Gathering at the entrance of Kunibiki Messe
17:40	Departure from the entrance of Kunibiki Messe by bus
18:15-18:45	Classical Garden Exploring
18:45-19:00	Awarding Ceremony
19:00-20:30	Japanese Traditional Performances & Cuisine

DAY 4 | July 18, 2026

ONE DAY TOUR IN MATSUE

09:00	Departure from entrance of Kunibiki Messe
09:30-10:30	Visit Matsue Castle

10:40-11:40	Horikawa Sightseeing Boat Ride
11:50-12:40	Lunch Break
13:00-15:00	Matsue Vogel Park
15:45	Arrival at JR Matsue Station at 15:45 (Subject to no traffic delays)

Note: Please note that the itinerary, including the schedule and duration of each activity, is subject to change depending on actual circumstances.

Part IV Featured Speakers

Keynote Speakers

KEYNOTE SPEAKER: Prof. Wei-Bin Zhang

School of International Management, Ritsumeikan Asia Pacific University,
Japan

Keynote Speech 1

July 16, 2026

Time: 09:05-09:45

Speech Title: On Complexity of Digitalization and Management Innovation in the Light of Complexity Theory and the General Economic Theory



Abstract. Applying complexity theory and my general economic theory, I present an alternative vision for investigating uncertainty and human capital formation in the evolution of economies and businesses. First, I demonstrate the importance of modern scientific advances for understanding complex human and social phenomena. This approach enables us to understand, evaluate, and predict the possible implications of digital-based socioeconomic systems. Second, I present a general economic theory consisting of a set of formulas that treat all major economic theories, from Adam Smith, Malthus, Karl Marx, and Keynes to contemporary mainstream economic theory, as special cases within a single framework. This work shows how to analyze mechanisms and functioning of socioeconomic systems connected with digitalized networking. Finally, I will discuss how complexity theory and the general economic theory can be applied to a variety of human and social problems. In particular, I refer to the I Ching (Chinese Bible: Yi Jing) on East Asia's way of thinking.

Biography: Wei-Bin Zhang, Ph.D. (Umeå, Sweden), has been a Professor at Ritsumeikan Asia Pacific University since 2000. He graduated in 1982 from Beijing University. He got a master's degree and completed the Ph.D. course at the Department of Civil Engineering, Kyoto University, by September 1987. He completed his dissertation on economic growth theory in Sweden by April 1989. Since then, he researched at the Swedish Institute for Futures Studies in Stockholm for 10 years. His main research fields are complexity theory in economics (nonlinear economic dynamics, chaos theory, synergetic economics), a general economic theory, different fields of economics, ancient Chinese thought, American civilization, and the economic development and modernization of Chinese societies and Japan. He single-authored 490 academic articles (240 in international peer-reviewed journals), 33 academic books in English by well-known international academic publishing houses available on Amazon, and two books of poetry (in Chinese) by a prominent publisher in the field. He is an editorial board member of 12 peer-reviewed international journals. He was ranked 5th in the world among 73401 registered authors in economics in NJP by August 2025 (the address below). Prof. Zhang is the editor of the Encyclopedia of Mathematical Models in Economics (in two volumes) as a part of the unprecedented global effort, The Encyclopedias of Life Support Systems, organized by UNESCO (the address below).

<https://ideas.repec.org/top/top.person.anbpages.html#pzh151>

<https://www.eolss.net/outlinecomponents/Mathematical-Models-Economics.aspx>



KEYNOTE SPEAKER: Prof. Yoshihiro Hamaguchi

Professor of Macroeconomics at Hannan University, Osaka, Japan

Keynote Speech 2

July 16, 2026

Time: 09:45-10:25

Speech Title: A Review of the Impact of Digitalisation, Big Data, and AI in Society 5.0 on the Four Major Hypotheses and Income Inequality

Abstract. The concept of sustainable development has permeated the world, with citizens, businesses and governments uniting under the SDGs to tackle environmental issues such as the climate crisis. However, the intensification of natural disasters caused by climate change continues, while environmental destruction and widening income disparities driven by globalisation also advance. Consequently, the prospects for coordinated environmental measures between developed and developing nations are becoming increasingly uncertain. The forthcoming Society 5.0, driven by digitalisation, big data, and AI, holds promise for reconciling economic development with social challenges, while also harbouring potential to contribute to solving environmental problems. These cutting-edge technologies may offer new perspectives on long-debated environmental economics concepts: the environmental Kuznets curve, the resource curse, Porter's hypothesis, the pollution haven hypothesis, and income inequality. This review prioritises papers with high citation counts in influential journals from 2015 to 2025 to outline research trends and present future challenges. Through a narrative and literature-based review, it aims to grasp how digitalisation, big data, and AI are altering existing prominent hypotheses, thereby providing direction for theoretical research and social practice.

Biography: Dr. Yoshihiro Hamaguchi received his PhD from Osaka University in March 2020 and currently serves as Professor of Macroeconomics at Hannan University, Osaka, Japan. His research aims to identify the mechanisms of sustainable development, utilising macroeconomic theories of economic growth and analytical methods from international and political economics. His research to date has elucidated how environmental policies can lead to pollution reduction and economic growth through innovation and he has applied his findings to the pollution haven hypothesis, sustainable tourism and sustainable finance. He has received several research grants from the Japan Society for the Promotion of Science (JSPS), reported his research at numerous peer-reviewed international conferences and published in the Journal of Macroeconomics, Tourism Economics, Transport Policy, Frontiers in Marine Science, China & World Economy, Environment, Development and Sustainability, Journal of Environmental Management, among others. Some of these papers were commended for obtaining the highest number of citations in a year. He is currently actively pursuing collaborative research with researchers around the world.

KEYNOTE SPEAKER: Dr. Adela Lau

Deputy Director of HKU SAAS Data Science Lab, Division of Statistics and Actuarial Science, School of Computing and Data Science, The University of Hong Kong

Keynote Speech 3

July 16, 2026

Time: 11:00-11:40

Speech Title: Future Trend of Big Data Analytics: Quantum Computing



Abstract. To be updated

Biography: Dr. Adela Lau is the Deputy Director of HKU SAAS Data Science Lab, Division of Statistics and Actuarial Science, School of Computing and Data Science of the University of Hong Kong. Dr. Lau published over 60 journal and conference papers and funded over 50 research and industrial collaboration and consultancy projects in the area of machine learning, business intelligence, text analysis, network analysis, social media and big data analytics, AI and Mixed Reality in metaverse, intelligence applications, risk management, information system adoption, ontology/taxonomy building, business process re-engineering, portal design, knowledge management, e-learning, public/community health studies, healthcare systems and nursing clinical quality control & assessment. She gained several awards including NANDA Foundation Research Grant Award (USA), Faculty Merit Award in Services (HK), and Inaugural Teaching and Learning Showcase Award (HK). She was the former director of Center for Business Development at Madonna University in USA, and the co-director of the Center for Integrative Digital Health at Hong Kong Polytechnic University (PolyU) and led the IT team for healthcare product innovation. Dr. Lau was an active committee member of Knowledge Management Research Center at PolyU and Data Science Center at Hong Kong University of Science and Technology (HKUST), in which she initiated and developed industrial applied-research consultancy projects. She was also the UG coordinator of the Risk Management and Business Intelligence Program at HKUST, and was responsible to lead, execute, and coordinate the program works including curriculum design, enrichment programs, and administration across three schools of business, science, and engineering.

Invited Speakers



Prof. Dimiter Velev
University of National and World Economy,
Bulgaria



Prof. Bang-Ning Hwang
National Yunlin University of Science and
Technology



Assoc. Prof. Martin Lukáš
Czech University of Life Sciences Prague, Czech
Republic



Prof. Filiz Ersöz
Ostim Technical University, Turkey

Part V Oral Presentation Guideline

Oral Presentation Guidelines

The oral presentations include the forms of onsite presentations and online presentations. The online presentations are all pre-recorded video presentations.

Duration of Each Presentation

- Keynote Speech: 40 minutes of presentation, including 3-5 minutes of Q&A
- Invited Speech: 20 minutes of presentation, including 3-5 minutes of Q&A
- Regular Oral Presentation: 15 minutes of presentation, including 3-5 minutes of Q&A

- For onsite oral presentations, please make the following preparations:
 - 1) The presentation PowerPoint or PDF should be formatted with figures and tables, plain text is inappropriate;
 - 2) Speakers are recommended to bring their presentation data in the form of PPT or PDF by a USB memory stick and send one copy to the organizing committee as a backup. For those who have not sent a file to the committee or any update needed, please copy it to the laptop in the session room about 15 minutes before the start time, and make sure it could be normally displayed;
- The pre-recorded videos for regular oral presentations or invited speeches should be uploaded to MMBD2026 online submission system **before July 1, 2025** in the format of **.mp4** and time duration should be 15-20 mins.
- The PPT either for pre-recorded video presentations could design as you like with requirements as below:
 - ✓ The conference logo should be added to each PPT slide
 - ✓ Title, presenter and affiliation information should be indicated in the first slide
 - ✓ Each slide should be concise, uncluttered and readable from a distance
 - ✓ Include only key words and phrases for visual reinforcement
- ✚ All speakers should inform the Session Chair (before the start of your Session) that you are presented.
- ✚ Signed and stamped electronic oral presentation certificates would be issued onsite or via e-mail after the conference.

Part VI Awards



MMBD 2026 Best Oral Presentation Awards

During the conference, an assessment sheet will be delivered to listeners before the session. One Best Oral Presentation will be selected at a ratio of 1 to 15 based on the ranking of votes from onsite regular oral presentations in three oral sessions.

The Best Oral Presentation award consists of a cash prize of 300 USD sponsored by the journal *Data* (IF=2.0) and a best oral certificate issued by the journal.



data

an Open Access Journal by MDPI



MMBD 2026 Best Papers Awards

Invited & Oral Session 3: **Track on "Applied-education and applied-research in AI, Data Science, and Web6.0", the Second Edition** will set four best papers that will be selected by the track chair and the chair will deliver the certificates to the winners.

- (1) **Best applied research paper award**
- (2) **Most impact paper award**
- (3) **Most innovative award**
- (4) **most industrial practical award**

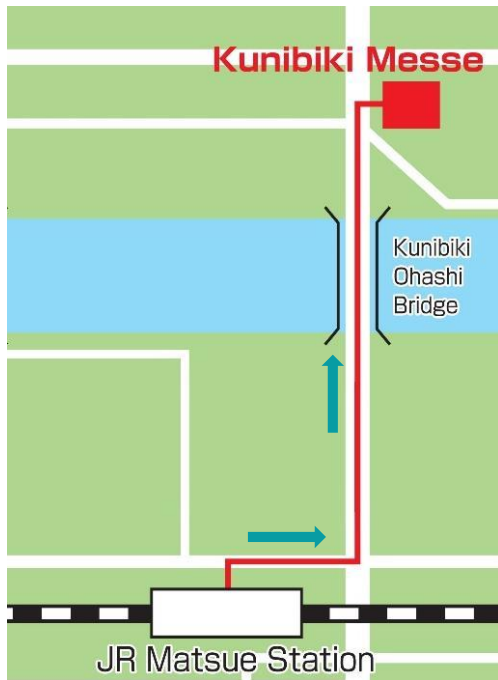
The winners will be presented at the Awarding Banquet and the results released on the MMBD 2026 official website.

Part VII Conference Venue

Kunibiki Messe (Shimane Prefectural Convention Center)

The biggest convention center in Shimane prefecture, Kunibiki Messe, is located in the center of Matsue City. There are Exhibition Hall (4,018 sqm), Multipurpose Hall (686 sqm), International Conference Hall (510 sheets), and 19 meeting rooms.

Free Wi-Fi is available in building.



It takes only 7 minutes on foot from JR Matsue Station to Kunibiki Messe



Kunibiki Messe

Address: 1-2-1 Gakuen Minami Matsue City, Shimane, JAPAN 690-0826

Tel: +81+852-24-1111

Fax: +81+852-22-9219

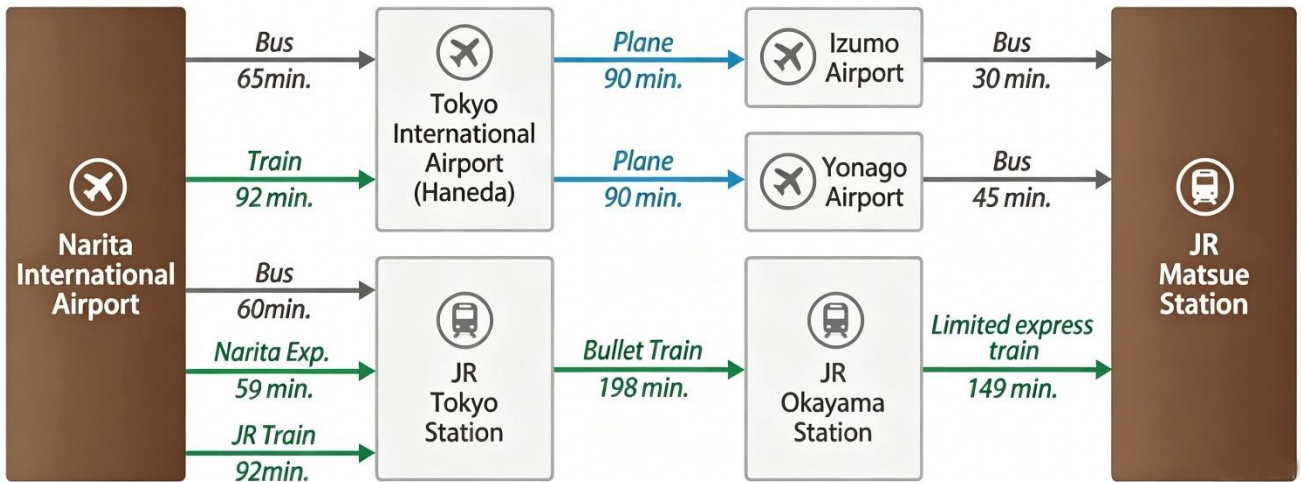
E-mail: kunibiki@kunibikimesse.jp



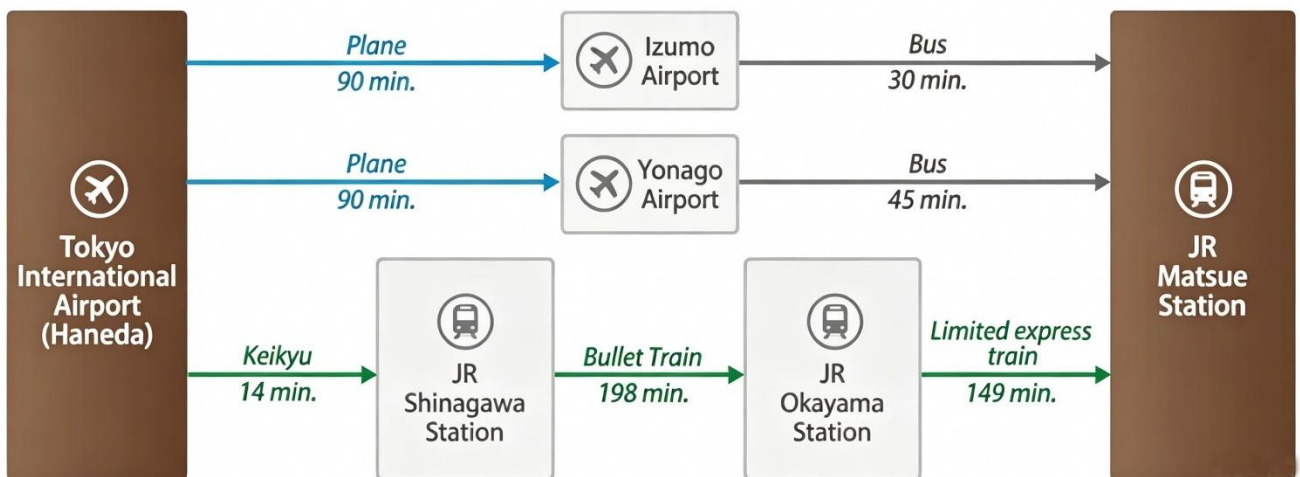
Access to JR Matsue Station



1. From Narita International Airport



2. From Tokyo International Airport



3. From Kansai International Airport

