"Make a better world with PM" WORLD PM2024 in YOKOHAMA, JAPAN



# WORLD PM2024

Powder Metallurgy World Congress & Exhibition 13-17 October 2024 YOKOHAMA, JAPAN

## **Congress Information**

Organized by Japan Powder Metallurgy Association (JPMA) Japan Society of Powder and Powder Metallurgy (JSPM) Supported by European Powder Metalluray Association (EPMA) Metal Powder Industries Federation (MPIF)

European Powder Metallurgy Association (EPMA) Metal Powder Industries Federation (MPIF) Asian Powder Metallurgy Association (APMA)



www.worldpm2024.com

## WORLD PM2024

Powder Metallurgy World Congress & Exhibition 13-17 October 2024 YOKOHAMA, JAPAN

## **Congress Information**

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#### W RLD PM2024 VOKOHAMA

## Sponsors



## Be the global industry leader with powder metallurgy technology & products





Headquarters and Niigata Office 3-1-1 Kogane-cho, Higashi-ku, Niigata-shi, Niigata 950-8640 Japan Tel: +81-25-275-0111

Fujioka Plant 700 Ushita, Fujioka-shi, Gunma 375-0034 Japan Tel: +81-274-24-2751

Higashi Nihon Office HONATSUGI MY-BUILD. 9F, 1-27-6 Asahi-cho, Atsugi-shi, Kanagawa 243-0014 Japan Tel: +81-46-282-8080

Chubu·Nishi-Nihon Office City Tower 5F, 1-15-10 Mikawaanio Minami-machi, Anjo-shi, Aichi 446-0058 Japan Tel: +81-566-70-8791

#### Affiliate companies

PM Techno Corporation 14 Heiwa-cho, Higashi-ku, Niigata-shi, Niigata 950-0035 Japan Tel: +81-25-275-1261

Guangdong Diamet Powder Metallurgy Co., Ltd. No. 6-1, Keyuan 3 Rd, XiaoHuangPu, Ronggui, Shunde District, Foshan, Guangdong Province, 528305 China TEL: +86-757-2211-9470

Diamet Klang (Malaysia) Sdn Bhd Lot 26, Leboh Sultan Mohamed 1 Bandar Sultan Suleiman, 42000 Port Klang Selangor Darul Ehsan, Malaysia TEL: +60-3-3176-4245



株式会社ダイヤメット DIAMET CORPORATION



## Greeting from WORLD PM2024 Yokohama



©Yokohama Visitors Guide

2024 Powder Metallurgy World Congress & Exhibition, organized by Japan Powder Metallurgy Association and Japan Society of Powder and Powder Metallurgy will be held in Yokohama, Japan, from 13 to 17 October 2024.

WORLD PM2024 will include presentations on the latest PM technologies and exhibitions to introduce the latest products and technologies from the PM supply chain. In addition, various social events and special programs will be prepared.

WORLD PM2024 will provide great opportunities to exchange the useful information and solutions and enhance interactive communication and deepen friendship.



We look forward to your participation in the congress to "Make a better world with PM".

## Organization

Organized by	
Jpma	Japan Powder Metallurgy Association (JPMA)
JSPM	Japan Society of Powder and Powder Metallurgy (JSPM)
Supported by	
	European Powder Metallurgy Association (EPMA)
	Metal Powder Industries Federation (MPIF)
APMA	Asian Powder Metallurgy Association (APMA)



## Global Innovation

Fine Sinter responds to the needs of customers with its powder metallurgy technology. We want to contribute to the development of all industrial products and realize excellent society through unique manufacturing

through unique manufacturing.

This is the wish of Fine Sinter.

Global Plant

Japan. Thailand. USA. China. Indonesia

Head office 1189-11 Nishinohora, Akechi-cho, Kasugai-city, Aichi-Prefectuer 480-0303 Japan TEL;0568-88-4355 FAX;0568-88-4321



URL; https:www.fine-sinter.com

#### W RLD PM2024 VOKOHAMA

## Organizing Committee

#### **Congress Chairs**



**Mr. Shuzo Sonoda** Organizing Committee Chair JPMA President (FUKUDA METAL FOIL & POWDER CO., LTD.)



**Prof. Yukiko Ozaki** Organizing Committee Vice Chair JSPM President (Osaka University / Kyushu University, Japan)

We are delighted to welcome you to the WORLD PM2024 Congress & Exhibition in Yokohama, one of the most popular and attractive cities in Japan.

Yokohama, one of the oldest international ports in Japan, is located in the center of Japan near Tokyo.

East met west, classic met modern, Yokohama has been grown as exotic flavored city since they opened their door for international people in 1859.



So, you can enjoy historical area such as old brick warehouse, sophisticated shopping mall, harbor walk, and finest Japanese and international cuisine within just walking distance.

Beautiful Mt. Fuji, historical Kamakura city (was capital city in Japan during late 12th and early 13th century, "Samurai" and "Zen" culture begun here in Kamakura) are in one day trip distance from Yokohama.



WORLD PM2024 will include presentations on the latest PM technologies and exhibitions to introduce the latest products and technologies from the PM supply chain. In addition, various social events and special programs will be prepared. WORLD PM2024 will provide great opportunities to exchange the useful information and solutions and enhance interactive communication and deepen friendship. We look forward to your participation in the congress to "Make a better world with PM".

#### **Organizing Committee**

#### Chair

Mr. Shuzo Sonoda, FUKUDA METAL FOIL & POWDER CO., LTD.

#### **Vice Chair**

Prof. Yukiko Ozaki, Osaka University / Kyushu University

#### Members

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#### Auditor

**Prof. Tatsuo Fujii**, Okayama University **Mr. Seiji Shimizu**, NTN Advanced Materials Corporation

#### Secretary

Mr. Yoshio Uetsuki, Japan Powder Metallurgy Association Ms. Yoko Inoue, Japan Society of Powder and Powder Metallurgy

#### **Technical Committee**

Chair Prof. Yukiko Ozaki, Osaka University

Prof. Yukiko Ozaki, Osaka University / Kyushu University

#### Vice Chair

Prof. Katsuyoshi Kondoh, Osaka University

#### **Steering Committee**

#### Chair

Mr. Toshitaka Masumoto, FUKUDA METAL FOIL & POWDER CO., LTD.

Sub Committee1 Chair Mr. Takahisa Matsumoto, DIAMET CORPORATION

Sub Committee2 Chair Mr. Kenji Kanai, Sumitomo Electric Industries, Ltd.

Sub Committee3 Chair Mr. Yuji Akiyama, PORITE CORPORATION

#### Sub Committee4 Chair

Mr. Masaaki Sakamoto, Höganäs Japan K.K.

#### W RLD PM2024 VOKOHAMA

## Technical Committee

#### **Technical Program Committee Chairs**



#### Yukiko Ozaki

Technical Program Committee Chair (Osaka University / Kyushu University, Japan)



#### Katsuyoshi Kondoh

Kazuki Okada, Mitsubishi Materials Corporation, Japan

Technical Program Committee Vice Chair (Osaka University, Japan)

#### **Technical Program Committee Members**

Masaki Azuma, Tokyo Institute of Technology, Japan Chen Biao, Northwestern Polytechnical University, China Zhongchun Chen, Tottori University, Japan Kenji Doi, Osaka Yakin Kogyo Co., Ltd., Japan Ayman Hamada Abdelhady Elsayed, Central Metallurgical Research and Development Institute (CMRDI), Egypt Masayoshi Fuji, Nagoya Institute of Technology, Japan Masashi Fujinaga, JPMA Adviser, Japan Hiroshi Fujiwara, Ritsumeikan University, Japan Hiroki Hara, Tungaloy Corporation, Japan Norimitsu Hirose, Höganäs Japan K. K., Japan Kuen-Shyang Hwang, National Taiwan University, Taiwan Kenji limura, University of Hyogo, Japan Miki Inada, Kyushu University, Japan Keiichi Ishihara, Kyoto University, Japan Takashi Itoh, Nagoya University, Japan Shota Kariya, Osaka University, Japan Hidemi Kato, Tohoku University, Japan Masaki Kato, Doshisha University, Japan Masaru Kawakami, Fuji Die Co., Ltd., Japan Katsumi Kikuchi, NEC Corporation, Japan Teiichi Kimura, Japan Fine Ceramics Center, Japan Akira Kishimoto, Okayama University, Japan Yoshitaka Kitamoto, Tokyo Institute of Technology, Japan Naoto Kitamura, Tokyo University of Science, Japan Makoto Kobashi, Nagoya University, Japan Yoshinori Kobayashi, Proterial, Ltd., Japan Masahiro Kubota, Nihon University, Japan Shufeng Li, Xi'an University of Technology, China Yoshitake Masuda, National Institute of Advanced Industrial Science and Technology (AIST), Japan Itaru Masuoka, Kobe Steel, Ltd., Japan Yoshibumi Matsuda, TAIYO YUDEN CO., LTD., Japan Shinzo Mitomi, Nippon Tungsten Co., Ltd., Japan Takamasa Mori, Hosei University, Japan Koji Morita, National Institute for Materials Science (NIMS), Japan Shinji Munetoh, Kyushu University, Japan Isao Nakahata, TDK Corporation, Japan Takayoshi Nakano, Osaka University, Japan Hiroyuki Nakayama, National Institute of Advanced Industrial Science and Technology (AIST), Japan Naoyuki Nomura, Tohoku University, Japan Gaku Obara, Meiji University, Japan Tomoya Ohno, KITAMI Institute of Technology, Japan

Chikara Ohtsuki, Nagoya University, Japan

Toshiko Osada, Tokyo Metropolitan University, Japan Isamu Otsuka, EPSON ATMIX CORPTRATION, Japan Kimihiro Ozaki, National Institute of Advanced Industrial Science and Technology (AIST), Japan Ma Qian, Royal Melbourne Institute of Technology, Australia Xuanhui Qu, University of Science and Technology Beijing, China Chang Kyu Rhee, Korea Atomic Energy Research Institute, Korea Yoshio Sakka, National Institute for Materials Science (NIMS), Japan Gen Sasaki, Hiroshima University, Japan Tetsuya Sawayama, Kobe Steel, Ltd., Japan Yuichi Shimakawa, Kyoto University, Japan Kazunari Shinagawa, Kyushu University, Japan Yoichiro Shinpo, FUKUDA METAL FOIL & POWDER Co., LTD., Japan Naoto Shirahata, National Institute for Materials Science (NIMS), Japan Yoshiyuki Sugahara, Waseda University, Japan Masaki Sugiyama, TOYOTA MOTOR CORPORATION, Japan Hironori Suzuki, Kobe Steel, Ltd., Japan Kenta Takagi, National Institute of Advanced Industrial Science and Technology (AIST), Japan Katsuhisa Tanaka, Kyoto University, Japan Huiping Tang, Zhejiang University City College, China Yukinori Taniguchi, National Institute of Technology, Nara College, Japan Toshiyuki Taniuchi, Mitsubishi Materials Corporation, Japan Sota Terasaka, Japan Fine Ceramics Center, Japan Ruangdaj Tongsri, National Metal and Materials Technology Center (MTEC), Thailand Keiichi Tsuda, Sumitomo Electric Hardmetal Corp., Japan Tadayuki Tsutsui, Resonac Corporation, Japan Yoshihisa Ueda, Fine Sinter Co., Ltd., Japan Shigeru Unami, JFE Steel Corporation, Japan Yoko Pittini-Yamada, Meyer Sintermetall AG, Switzerland Shigekazu Yamazaki, A.L.M.T. Corp., Japan Yafeng Yang, Chinese Academy of Sciences, China Katsuhiko Yano, DIAMET CORPORATION, Japan Noriharu Yodoshi, Kyushu University, Japan Hidehiro Yoshida, The University of Tokyo, Japan Shaoming Zhang, CHINA Powder Metallurgy Alliance, China

Find new value in metal powders and meet your needs.

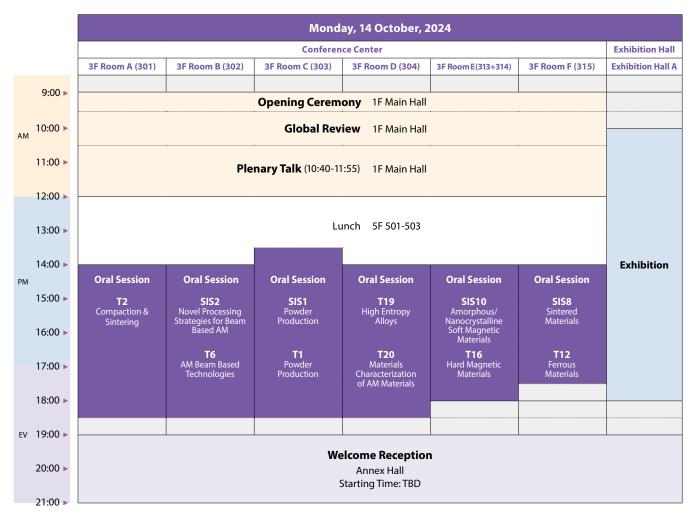






### Congress Schedule

#### \*Registration Desk opens from 13 October, 2024 (Registration Open Hours: TBD)



		Tuesday, 15 October, 2024							
		Conference Center							<b>Exhibition Hall</b>
		3F Room A (301)	3F Room B (302)	3F Room C (303)	3F Room D (304)	3F RoomE(313+314)	3F Room F (315)	3F Foyer	Exhibition Hall A
	9:00 ►	Oral Session	Oral Session	Oral Session	Oral Session	Oral Session	Oral Session		
ŀ	10:00 ►	<b>T3</b> Modeling and	<b>T6</b> AM Beam Based	<b>T1</b> Powder	<b>SIS4</b> Trends and Sustainability of MIM	<b>T16</b> Soft Magnetic	<b>T14</b> High Temperature		
	11:00 ►	Sintering	Technologies	Production	<b>SIS5</b> MIM Challenges for New Materials	Materials	Materials	Poster Session	
	12:00 ►								
	13:00 ►	Lunch 5F 501-503							
	14:00 ►			I				Core Time	Exhibition
F	PM	Oral Session	Oral Session	Oral Session	Oral Session	Oral Session	Oral Session		
	15:00 ►	<b>SIS3</b> Promising Future of Sinter Based AM	<b>T6</b> AM Beam Based Technologies	<b>T1</b> Powder Production	<b>T8</b> MIM - New Processing Routes	<b>SIS13</b> Circular Economy and Sustainability	<b>T13</b> Non Ferrous Materials	Poster Session	
	16:00 ►	<b>T7</b> AM Sinter Based Technologies			<b>T8</b> MIM - Stainless Steel and Heat	in PM			
	17:00 ►	reennologics			Resistant Alloy				
	EV 18:00 ►								
	19:00 ►								

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		Wednesday, 16 October, 2024							
			Conference Center						<b>Exhibition Hall</b>
		3F Room A (301)	3F Room B (302)	3F Room C (303)	3F Room D (304)	3F RoomE(313+314)	3F Room F (315)	3F Foyer	<b>Exhibition Hall A</b>
	9:00 ►	Oral Session	Oral Session	Oral Session	Oral Session	Oral Session	Oral Session		
АМ	10:00 ►	<b>T7</b> AM Sinter Based Technologies	<b>T6</b> AM Beam Based Technologies	<b>SIS6</b> Industrial Application of Functional Materials	<b>SIS11</b> Energy Materials	<b>SIS14</b> DX in PM	<b>T12</b> Ferrous Materials		
	11:00 ►	recimologica	lectilologics	<b>SIS7</b> Powder Design for Industrial Application	Mutchuis		matchais	Poster Session	
	12:00 ►								
	13:00 ►		Lunch 5F 501-503						
									Exhibition
PM	14:00 ►	Oral Session	Oral Session	Oral Session	Oral Session	Oral Session	Oral Session		
	15:00 ►	<b>T7</b> AM Sinter Based Technologies	<b>T5</b> Field Assisted Sintering	T11 High Profile Automotive Component Technology	<b>T18</b> Non-Oxide Materials	SIS12 Carbon Neutrality (CN) in PM	<b>SIS9</b> Hard Materials	Poster Session	
	16:00 ►	lecimologica	Technologies	<b>T11</b> Tribology in PM	<b>T17</b> Composite/Hybrid Materials		<b>T15</b> Hard Materials		
EV	17:00 ►			<b>T11</b> PM Technologies to Support Future	Materials				
	18:00 ►			Society					
	19:00 ►								
	20:00 ►				Constant	ee Dowby			
	21:00 ►		Congress Party Yokohama Royal Park Hotel						
	22:00 ►								

		Conference Center							
		3F Room A (301)	3F Room B (302)	3F Room C (303)	3F Room D (304)	3F RoomE(313+314)	3F Room F (315)		
	9:00 ►			Oral Session	Oral Session	Oral Session	Oral Session		
АЛ	10:00 ►			<b>T4</b> Hot Isostatic Pressing	<b>T17</b> Composite/Hybrid Materials	T9	<b>T15</b> Hard Materials		
	11:00 ►								
	12:00 ►								
	13:00 ►								
PM	14:00 ►							<b>.</b>	
	15:00 ►							Technical Visit and Optional Tour	
	16:00 ►								
	17:00 ►								
EV	18:00 ►								
	19:00 ►				10				



## Invited Speakers

#### **Plenary Talk**



Yansong Shen The University of New South Wales, Australia

Metallurgy-inspired Solar Panels Recycling



#### Eiichi Sato

Institute of Space and Astronautical Science (ISAS) / Japan Aerospace Exploration Agency (JAXA), Japan

Mechanical Properties and Reliability of Structural Materials for Spacecraft Applications



Iwatani Corporation, Japan Iwatani's Efforts Towards the Realization

Manabu Tsuyoshi

of a Hydrogen Society

#### Keynote Talk



**Kaveh Edalati** Kyushu University, Japan PM TECHNOLOGY - Powder Production



Jai-Sung Lee Hanyang University ERICA, Korea PM TECHNOLOGY - Processing



Jian Luo University of California, San Diego, USA PM TECHNOLOGY - Processing



**Tomoya Sako** FINE SINTER CO.,LTD., Japan PM TECHNOLOGY - Industrial Application



Kohmei Halada National Institute for Materials Science Sustainability Design Institute, Japan HOT TOPICS - Carbon Neutrality (CN) in PM



**Oleg Vasylkiv** National Institute for Materials Science, Japan PM MATERIALS - Sintered Materials



Hirotomo Itagaki National Institute of Advanced Industrial Science and Technology, Japan HOT TOPICS - Circular Economy and Sustainability in PM



Isao Tanaka

Kyoto University, Japan

HOT TOPICS - DX in PM

**Zhigang Zak Fang** The University of Utah, USA PM MATERIALS - Hard Materials



**Ryoji Kanno** Tokyo Institute of Technology, Japan PM MATERIALS - Functional Materials



**Tetsuya Shoji** Toyota Motor Corporation, Japan HOT TOPICS - DX in PM



#### Special Invited Talk (Special Interest Seminar)

#### **PM TECHNOLOGY**

Powder Production	<b>Taku Iwaoka</b> Tokyo Metropolitan Industrial Technology Research Institute, Japan <b>Naoto Shirahata</b> National Institute for Materials Science, Japan
Processing	Animesh Bose Optimus Alloys, USA Kenji Doi Osaka Yakin Kogyo Co., Ltd., Japan Hyoung Seop Kim Pohan University of Science and Technology, Korea Sebastian Boris Hein Fraunhofer IFAM, Germany Stefan Jones Elnik Systems, LLC, USA
Industrial Application	Sachiko Masuoka Fukuda Metal Foil & Powder Co., Ltd., Japan Shinjiro Saigusa Toyota Motor Corporation Higashi-Fuji Technical Center, Japan

#### **PM MATERIALS**

Sintered Materials	<b>Mikio Ito</b> Fukui University of Technology, Japan <b>Ryohei Hosomi</b> Sanyo Special Steel Co., Ltd., Japan
Hard Materials	<b>Bin Shi</b> Aerospace Manufacturing Technology Centre, National Research Council of Canada, Canada <b>Sota Terasaka</b> Japan Fine Ceramics Center, Japan
Functional Materials	<b>Kiyoshi Kanamura</b> Tokyo Metropolitan University, Japan <b>Hiroyuki Matsumoto</b> TDK Corporation, Japan

#### HOT TOPICS FOR THE BETTER WORLD

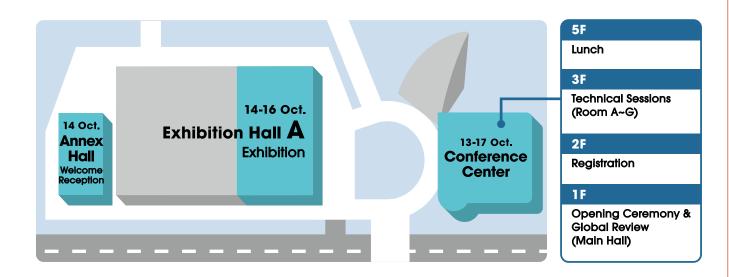
Carbon Neutrality (CN) in PM (ECO Processes, ECO Materials)
Yoshinobu Takeda International PM Consultant, Japan
Tomoyuki Ueno Sumitomo Electric Sintered Alloy Ltd., Japan
Nobuaki Yoshimura CHUGAI RO CO., LTD., Japan
Circular Economy and Sustainability in PM (Reuse, Recycle, Remanufacturing)
Zhigang Zak Fang The University of Utah, USA
Linnea Molin Höganäs AB, Sweden
DX in PM (Material Informatics, Material Integration)
Keniiro Fuiimoto Tokyo University of Science, Japan

**Kenjiro Fujimoto** Tokyo University of Science, Japan **Susanne Norgren** Lund University & Sandvik, Sweden

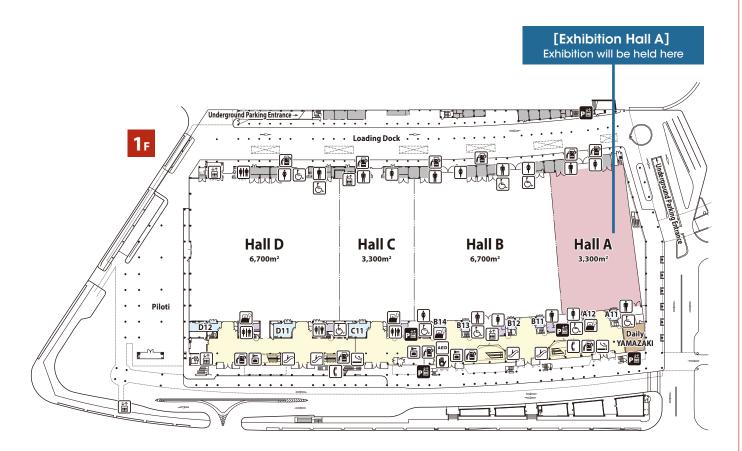


## Floor Plan

#### **Overall View**



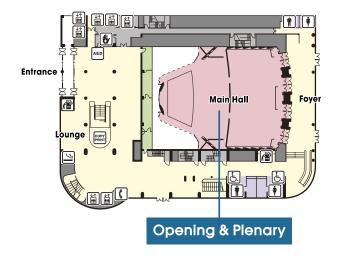
#### **Exhibition Hall A**



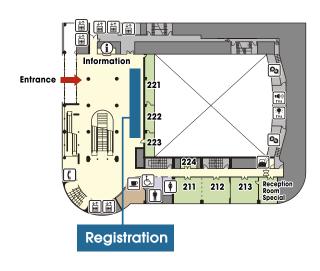


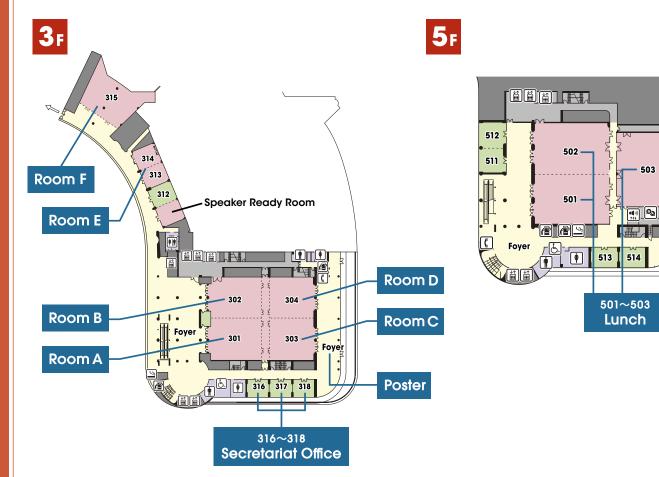
#### **Conference Center**











#### W RLD PM2024 VOKOHAMA

### Registration

#### Schedule

\*All dates are in Japan Standard Time.

Early-bird Registration:2 Apr. 2024 - 2 Sep. 2024Late Registration:3 Sep. 2024 - 12 Oct. 2024On-site Registration:13 Oct. 2024 - at Noon, 17 Oct. 2024

#### **Registration Fee**

\*All payments must be made in Japanese yen

Category	Early-bird Registration From 2 Apr. 2024 to 2 Sep. 2024	Late Registration From 3 Sep. to 12 Oct. 2024	On-site Registration From 13 Oct. 2024 to 17 Oct. 2024	
Presenting author/Session chair*1	125,000 JPY	150,000 JPY	165,000 JPY	
JPMA/JSPM Member* <sup>2</sup>	170,000 JPY	204,000 JPY	224,400 JPY	
Non-member	190,000 JPY	228,000 JPY	250,800 JPY	
Student <sup>*3</sup>	15,000 JPY	18,000 JPY	19,800 JPY	

\*All registration fees are not subject to tax.

#### Fee includes as follow,

Category		Presenting author/ Session chair	JPMA & JSPM Member	Non-member	Student	Accompanying person
All Scientific Sessions	14-17 Oct.	0	0	0	0	×
Opening Ceremony/ Plenary Session	14 Oct.	0	0	0	0	0
Exhibition	14-16 Oct.	0	0	0	0	0
Refreshment Breaks	14-17 Oct.	0	0	0	0	×
Lunch	14-16 Oct.	0	0	0	×	×
WORLD PM2024 Proceedings		0	0	0	0	×
Social Events	Welcome Reception (14 Oct.)	0	0	0	13,000 JPY	13,000 JPY
Social Events	Congress Party (16 Oct.)	0	0	0	15,000 JPY	15,000 JPY

\*1 Presenting author and Session chair Registration

Reduced registration fees are available for presenting authors and session chairs. All presentations are limited to one speaker per presentation. Co-authors should register at the regular congress rates. The registration deadline for presenting authors is 2 August 2024 and the inclusion of papers in the final Program and congress proceedings is dependent upon the submission of registrations and payment by this date.

\*2 JPMA & JSPM Member Registration

Members of the JPMA and the JSPM will qualify for a discount on the full registration fee. The discount applies to all employees of full, associate and affiliate company members, and also to individual members.

\*3 Student Registration

The student category is for undergraduate and graduate students.

Students are required to upload a scanned copy (in either jpeg or pdf format) of their student ID via online registration form. Please be advised that student category will be applied for students who have full time job.

If you are a student and a presenter, please register under the student category.

\*4 Social Events' Ticket

Tickets for the Welcome Reception & Congress Party can be purchased at the congress venue.

#### **Accompanying Person**

Each participant may be accompanied by one companion.

#### **Certificate of Attendance**

A certificate of attendance for this congress will be substituted by a name badge issued at the venue on the day of the congress.

Cancellation Policy	Date of Cancellation	Cancellation Fees
Registration cancellations will only be accepted	Until 13 August 2024	15% cancellation fee
by email to worldpm2024-reg@jtbcom.co.jp.	From 14 August 2024	100% cancellation fee (No refund)

#### Date

Mon., 14 October through Wed., 16 October

#### Venue

Exhibition Hall A, Pacifico Yokohama (1F)

#### **Entrance fee**

Admission Free, but registration is necessary. \*On-site Exhibition Registration will be available during the open hours above.

#### **Exhibitors**

#### **Additive Manufacturing**

BGRIMM Advanced Materials Science & Technology Co., Ltd (BAMSTC) Ipsen Co., Ltd. LOTi Co., Ltd. Quintus Technologies Raise3D Japan 3D Printer Co.,Ltd SUGIYAMA CO.,LTD.

#### Association

EPMA - European Powder Metallurgy Association Metal Powder Industries Federation / APMI International

#### Components

CISRI HIPEX TECHNOLOGY CO., LTD. DIAMET CORPORATION FINE SINTER CO., LTD. JUKI AIZU CORPORATION Metal Technology Co. Ltd. MTC Powder Solutions AB MITSUBISHI MATERIALS TRADING CORPORATION Nakahara Precision Co., LTD. Sumitomo Electric Industries, Ltd. Verder Scientific Co., Ltd. Xi'an Sino-Euro Materials Technologies Co., Ltd

#### Distributor

Taiyo Wire Cloth Co.,Ltd New Metals and Chemicals Corporation, Ltd. PACIFIC SOWA CORPORATION

#### Equipment

AMAZEMET BluePower Casting and Powder Production Systems CREMER Thermoprozessanlagen GmbH DORST Technologies GmbH & Co. KG HEXAGON PRODUCT DEV PVT LTD JTEKT Thermo Systems Corporation KOBAYASHI INDUSTRY CO.,LTD. Lauffer Pressen Osterwalder Japan K.K. SACMI Imola SC SINTER LAND INC. NJS Co.,Ltd Sodick Co., Ltd Tekna Yangzhou Haili Precision Machinery Manufacturing Co., LTD

#### MIM Components

CASTEM CO.,LTD IWAKI DIECAST Co.,Ltd. Longding New Materials Technology Co., Ltd. in Yingtan City, China INDO-MIM Limited NIPPON PISTON RING CO.,LTD. TAISEI KOGYO CO., LTD.

#### **Raw Materials**

Asahi Kasei Corp. DOWA ELECTRONICS MATERIALS CO., LTD. EPSON ATMIX CORPORATION EML (Eloi MateriaLs) Co., Ltd. FUKUDA METAL FOIL & POWDER CO., LTD. Höganäs Japan K.K./ Höganäs AB JFE Steel Corporation Makin Metal Powders MUTSUMI SPECIAL ALLOY INDUSTRY CO., LTD. OSAKA Titanium technologies Co.,Ltd. PolyMIM GmbH Pometon Spa **Rio Tinto** Sandvik Additive Manufacturing SLM Technology Private Limited Steppe Metal Powder LLC

#### Software

IDAJ Co., LTD. Thermo-Calc Software

#### Tooling

DA CHEN MOLD GF Machining Solutions Ltd. Jiangxi Ningheda New Material Co., Ltd. NIIGATA SEIMITSU Co.,Ltd ProGrit GmbH Repton Co.,Ltd./ Imae Industries,Ltd.

#### Other

Inovar Communications Ltd (Metal AM Magazine | PIM International | PM Review)





#### Additive Manufacturing

#### BGRIMM Advanced Materials Science & Technology Co., Ltd (BAMSTC)

BGRIMM Advanced Materials Science & Technology Co., Ltd, (BAMSTC) is a new and high technology enterprise that affiliated to Beijing General Research Institute of Mining and Metallurgy (BGRIMM), a large scientific and technological enterprise directly under Chinese central government. Incorporated by BGRIMM's two subsidiaries, the Metal Materials Institute and Beijing Tungsten and Molybdenum Materials Factory, BAMSTC was found in November 2011 with 100 million RMB register capitals.

We provide five categories of products and services, including thermal spray materials, metal powders, tungsten molybdenum refractory materials, coating processing, technology consulting and training in these fields. Over 60 years experience in developing and manufacturing thermal spray materials and tungsten molybdenum refractory materials has forged our authority in these fields. By introducing international advanced powder manufacturing technology and our strength on research, we are able to provide thermal spraying powders with high quality. Our products are guaranteed by numbers of advanced research and manufacture equipments as well as the comprehensive detection system.

#### Additive Manufacturing

#### Ipsen Co., Ltd.

Ipsen is a leading company for Heat treating furnace industry with both of Vacuum and Atmosphere technology since 1948.

lpsen is supporting not only for a new equipment selling, but also customer process and after maintenance service as well. Ipsen has deep expertise as limitedness innovation, such as more than 10,000 unites furnace in the market, 87,000+ stocked component, 100+ patent, 600+ employee who cover worldwide regions by local entities, US / Germany / India / China, and Japan.

Today we lpsen introduces DS furnaces engineered for the additive manufacturing market, specifically for the debinding and sintering process. Our range of furnace models accommodates various part sizes in small or large batches. Equipped with an in-line filter system for collecting binder material, DS furnaces reduce the steps needed to debind and sinter AM parts and do not require the use of harsh chemicals to attain clean results.

Please contact us whatever you want to know or get support for the technology.

#### **Additive Manufacturing**

#### LOTi Co., Ltd.

LOTi Co., Ltd. (Low Oxygen Titanium: LOTi) is a start-up company founded in January 2021 by a professor from Jeonbuk National University in Korea. Our company specializes in deoxidation and surface modification technologies that improve the flowability of titanium alloy powder for additive manufacturing. With our cutting-edge technology, we are able to reduce oxygen levels in the powder and enhance its reusability and requalification. This enables us to contribute to a more sustainable manufacturing process and reduce waste in the industry. Remarkable properties of our titanium alloy powder stands for Low-Oxygen High-Flowability Titanium Alloy Powder. First, our powder has very low oxygen content, which means it has a low surface oxide layer and low internal oxygen content. These features lead to improved sintered density and increased elongation after 3D printing process.

The second feature is very high flowability. These powder characteristics increase efficiency by improving powder supply and spreadability for the 3D printing process. Finally, our powder is the only hydrophobic surface powder in the world. These characteristics suggests highly oxidation resistance and easy to handle and store.

#### Additive Manufacturing

#### **Quintus Technologies**

Quintus Technologies is the global leader in high pressure technology. The company designs, manufactures, installs, and supports high pressure systems in three main areas: densification of advanced materials, sheet metal forming and high pressure processing for food and beverage innovation, safety, and shelf life. Quintus has delivered over 1,900 systems to customers within industries from energy, medical implants, space, aerospace, automotive and food processing. The company is headquartered in Västerås, Sweden, with a presence in 45 countries worldwide.

**Quintus Technologies** 

SE-721 66 Västerås, Sweden **Phone:** +46(0)21 32 70 00 **Web:** https:// quintustechnologies.com/



BGRIMM Advanced Materials Science & Technology Co., Ltd (BAMSTC)

No. 5 Fusheng Road, Shahe Town, Changping District, Beijing, China

Phone: +86 10 58915115

Web: www.bamstc.com



Ipsen Co., Ltd.

LOTi Co., Ltd.

of Korea

com/en

2-3-2 Yasuda, Tsurumi-ku, Osaka city, Osaka Phone: 06-7506-9705 Web: https://ipsenglobal.com/



85, Wonsindeok-gil, Wansan-gu,

Jeonju-si, Jeonbuk-do, Republic

Web: https://www.lotitanium.

LOTi Co., Ltd.

Phone: +82-63-714-3990



#### Additive Manufacturing

#### Raise3D

Raise3D is a world-leading 3D printing company that develops, produces and sells 3D printers, materials and software. Raise3D's success is rooted in 3D printing technology, empowering various industries and implementing flexible manufacturing.

After years of development, Raise3D has built an ecosystem integrating "3D printing consultation, service and implementation". Raise3D effectively helps customers actively and flexibly respond to changing global production demands, providing 3D printing services and systematically delivering a wide array of 3D printing solutions.

Raise3D's MetalFuse offers a complete solution in the form of an indirect metal 3D printing process. It consists of the Forge1 3D printer, which is compatible with third-party MIM processes, the D-200E debinding furnace and the S200-C sintering furnace, paired with a special edition of Raise3D's ideaMaker software, integrating complete process templates. With this solution, MetalFuse's advantages include low overhead costs and the ability to perform batch production. MetalFuse is more energy efficient and is more environmentally friendly compared to peer products and even other technologies, such as selective laser melting.

**Gold Sponsor** 

#### Raise3D

Floor 13 A5, 1688 North Guoquan Road, Yangpu District, Shanghai, China

Phone: +86 400 6367 888

**Web:** https://www.raise3d. com/



#### **Co-Exhibitor**

#### Japan 3D Printer Co.,Ltd

We have extensive experience in research and sales of various 3D printing technologies over the years. Beyond the features of the machines, we consider our knowledge, derived from practical experience, on material characteristics for various 3D printing methods (from resin to metal) and expertise in 3D data redesign for AM (Additive Manufacturing) technology, as our valuable competitive advantage.

Japan 3D Printer Co., Ltd. is capable of offering total solutions, including assistance in selecting 3D printers, material consultation for 3D printing, 3D data redesign for 3D printers, installation and training. Since our establishment a decade ago, we have successfully introduced our solutions to over 5,500 corporate clients and more than 450 educational and research institutions. We have a wide range of achievements in diverse industries, such as automotive, electronics, medical, aerospace, space, and product design.

#### Japan 3D Printer Co., Ltd

1F CROSS DOCK HARUMI 7-4, Harumi 4, Chuo-ku, Tokyo, Japan

Phone: 03 3520 8928 Web: https://3dprinter.co.jp/







#### Additive Manufacturing

#### SUGIYAMA CO., LTD.

We will introduce our system (Cold Metal fusion), which is a fusion of MIM and AM and overcomes the problems of conventional metal (Additive Manufacturing), as well as our products.

We are the only company in Asia that is working on this system(as of January 2024), and we will sell materials and manufacture products using this system.

#### SUGIYAMA CO., LTD.

Kazutomi 5-13, Kisosaki-CHO, Kuwana-Gun, MIE, 498-0823, JAPAN

Phone: +81567-68-7077 Web: http://www.forgingsugiyama.com/



#### Association

#### **EPMA - European Powder Metallurgy Association**

The EPMA was formed in Brussels in 1989; the European Powder Metallurgy Association has three key missions –

- Promoting PM Technology
- Representing the European PM Industry
- Developing the PM Future

The EPMA serves all types of member organisations, from component producers, metal powder manufacturers, equipment producers through to end-users, research centres, universities and individuals who have an interest in Powder Metallurgy.

#### EPMA - European Powder Metallurgy Association

1 avenue du General de Gaulle, 60500, Chantilly, France

**Phone:** +33 (0)787 777 848 **Web:** https:// www.epma.com





#### Association

#### **Metal Powder Industries Federation / APMI International**

MPIF is an international federation of related trade associations representing companies engaged in various aspects of the powder metallurgy and particulate materials industries.

MPIF is a global leader in the development of standards; professional development seminars; industry publications; and the annual PowderMet and AMPM conferences.

APMI International is a worldwide technical society for professionals interested in powder metallurgy and particulate materials technology. APMI publishes the quarterly International Journal of Powder Metallurgy; annual Who's who in PM Directory; and offers the industry's only PM Technologist certification program.

MPIF and APMI will host WorldPM2026, June 25–29, 2026 in Montreal, Canada. (www.WorldPM2026.org)

#### Metal Powder Industries Federation / APMI International

105 College Road East, Princeton, New Jersey, 08540 United States

Phone: 1-609-452-7700

Web: www.mpif.org



#### Components

#### **CISRI HIPEX TECHNOLOGY CO., LTD.**

HIPEX is a leading Hot Isostatic Pressing (HIP) platform and an advanced Hot Isostatic Press manufacturer in China. It has 4 HIP service centers in Beijing, Zhenjiang, Qingdao, and Weinan, equipped with 17 HIP units (from D80\*120mm to D1850\*3500mm) to offer HIP treating services publicly, including densification, diffusion bonding, NNS powder metallurgy, and technical support. All HIP equipment is designed and manufactured by the HIPEX team with full intellectual property.

CISRI HIPEX TECHNOLOGY CO., LTD.

76 Xueyuan South Road, Haidian District, Beijing, PRC. **Phone:** +86 13621052846 **Web:** www.hipex.cn



#### Components

#### DIAMET CORPORATION

Diamet offers powder metallurgy and sintered products for automobile parts. Since 1944, Diamet has created cutting-edge products from advanced technology to offer overwhelming production efficiency. In addition, we proactively venture into new technological fields, and we are also focusing on the development and manufacture of energy-saving technologies and environmentally friendly products for all industries. Sintered machine parts and oil-impregnated sintered bearings, furthermore, we can provide soft magnetic cores(SMC) that are compatible with the compact size and high efficiency of motors and inverters, and we are proceeding with the development of SMC.

#### **Platinum Sponsor**

#### DIAMET CORPORATION

3-1-1 Kogane-cho, Higashi-ku, Niigata-shi, Niigata 950-8640 Japan

**Phone:** +81-25-275-0111 **Web:** https://www.diamet.co.jp



株式会社ダイヤメット DIAMET CORPORATION

#### Components

#### FINE SINTER CO., LTD.

FINE SINTER CO., LTD. is a pioneer company in powder metallurgy in Japan with a history of 75 years. We established our headquarters in Aichi Prefecture, which is flourishing in the automobile industry, and have five factories in Japan. We also have established a global supply system with factories in Thailand, USA, China, and Indonesia.

At our exhibition booth, we are displaying our main products: high-precision and high-strength automotive parts, railway parts that put powder metallurgy characteristics to good use, also including soft magnetic powder-made products which will be our next generation of main products. Furthermore, compact hydraulic motor pump equipment that contain sintered parts are also on display. We use powder metallurgy to meet customer needs and contribute to a sustainable future.

#### **Platinum Sponsor**

#### FINE SINTER CO., LTD.

1189-11 Nishinohora, Akechi-cho, Kasugai-city,

Aichi-Prefecture, 480-0303, Japan

**Phone:** +81-568-88-4355

Web: https://www.fine-sinter.com





#### Components

#### JUKI AIZU CORPORATION

JUKI Aizu has over 40 years of history in lost wax precision casting technology, and has been involved in MIM (metal powder injection molding) for over 20 years. When considering lost wax precision casting or MIM (metal powder injection molding) products, please make use of JUKI Aizu, a technology proposaloriented company whose motto is high technology x high skill.

#### JUKI AIZU CORPORATION

75-AZA-OUMI KOFUNE SHIOKAWA-MACHI KITAKATA,FUKUSHIMA 969-3532,JAPAN

**Phone:** +81-241-27-3103 **Web:** http://www.jukiaizu.co.jp/



#### Components

#### Metal Technology Co. Ltd.

Since 1960, Metal Technology Co. Ltd. has offered a variety of metal-related solutions. One of our core competencies is powder metallurgy using HIP: PM-HIP technology. Various advantages such as a reduction in materials used, multiple material availability, the capability of producing complex shapes as well as large components, and controlling the microstructure are realized from using HIP: PM-HIP.

We operate the largest HIP furnace in the world and are one of only a hand full of companies capable of producing large HIP-near-net-shape components. Major applications are: sub-sea oil and gas fields, aerospace, nuclear power, and chemical plants. These high value-added components cannot be easily replaced due to the extreme conditions of their environments, as well as for parts where deterioration due to welding is a problem.

Discover how HIP-NNS is right for you. Let our experience and know-how provide the solutions you need.

#### **Silver Sponsor**

#### Metal Technology Co. Ltd.

Harmony Tower 27F, 1-32-2 Honcho, Nakano-Ku, Tokyo, 164-8721, JAPAN

Phone: +81-3-5365-3035

**Web:** https://www.kinzoku. co.jp/en.html



#### **Co-Exhibitor**

#### MTC Powder Solutions AB

Returgatan 1, SE-735 31, Surahammar, SWEDEN

Phone: +46 220 300 01 Web: https://www. mtcpowdersolutions.com/



#### **MTC Powder Solutions AB**

MTC Powder Solutions is a world-leading producer of near-net shape (NNS) products produced by hot isostatic pressing (HIP) and has supplied a variety of components utilized in challenging projects throughout the world.

As a company we have extensive experience working with critical components used in a variety of demanding industries such as Oil and Gas, Chemical, Nuclear, and Power Generation. This experience has resulted in a deep knowledge of various applications and a dedication to always extend the boundaries on what is possible. This enables us to assist our customers in meeting the challenges of today and achieving their goals of tomorrow.

#### Components

#### MITSUBISHI MATERIALS TRADING CORPORATION

We are the core trading company of the Mitsubishi Materials Group.

We can add value to the products of our partner companies, not only in Japan but also overseas, and propose them to our customers.

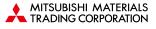
We will mainly introduce soft magnetic materials, MIM products, and 3D metal lamination.

#### MITSUBISHI MATERIALS TRADING CORPORATION

17th fl.Nihonbashi Hamacho F-Tower, 3-21-1, Nihonbashi Hamacho, Chuo-ku, Tokyo 103-0007, Japan

Phone: +81-3-3660-1689

Web: https://www.mmtc.co.jp





#### Components

#### Nakahara Precision Co.,LTD.

Established in 1975 as Nakahara Precision Works specializing in secondary processing for various components aimed at movements of renowned watch manufacturers. In 1984, Nakahara Precision Co., Ltd. was founded, marking 40 years of expertise in secondary processing.

"We aim to be your one-stop solution for everything from MIM product correction to cutting."

"When primary processing lacks precision or capability, we step in."

"We address distortions in the manufacturing process before cutting."

"We offer cost-effective cutting through press correction sizing."

We offer comprehensive solutions from sizing correction to cutting. With our extensive experience, we propose the best shapes tailored for secondary processing based on numerous achievements. We await your consultation as your partner in secondary processing. Nationwide service available throughout Japan.

#### Components

#### Sumitomo Electric Industries, Ltd.

Sumitomo Electric Industries, Ltd. started its sintering business back in 1948.

We established our mother factory of the sintering business in Okayama Prefecture, Japan in 1972, and since then we have expanded our business globally with 17 production plants in 10 countries.

The main products are structural parts such as VVT parts for engines, planetary gear carriers for transmissions, and rotors for electric oil pumps.

Furthermore, we plan to expand business of products such as brazing material parts and composite material parts for which new demand is expected in electric vehicles and various industrial fields in response to global environmental conservation.

In addition to new functional materials, we will also develop functional parts including assembly products. Sumitomo Electric Group will strive to realize "Living in safety and comfort on our green planet" with constant efforts and our technologies.

#### Components

#### Verder Scientific Co.,Ltd.

Part of Verder Scientific the Carbolite Gero brand is synonymous with high quality, leading heat technology in the design and manufacture of laboratory and industrial ovens & furnaces ranging from 30 °C to 3000 °C which are sold globally to over 100 countries.

#### Nakahara Precision Co., LTD.

1-5-28 Toushinden Surugaku Shizuoka-Cicy Shizuoka Post code421-0112

Phone: +81 54-258-8457

Web: www.nprec.com



#### **Gold Sponsor**

#### Sumitomo Electric Industries,Ltd.

1-1-1, Koyakita, Itami-shi,Hyogo 664-0016, Japan

Phone: +81-72-771-0570

**Web:** https://sumitomoelectric. com/jp/products/sintering



#### **Bronze Sponsor**

#### Verder Scientific Co., Ltd.

Shimoto Building, 46-3, 1-chome, Hatsudai, Shibuyaku, Tokyo

Phone: +81 3 6276 0073 Web: https://www.carbolitegero.com



#### Components

#### Xi'an Sino-Euro Materials Technologies Co., Ltd

Xi'an Sino-Euro Materials Technologies Co., Ltd (Sino-Euro), a subsidiary of Northwest Institute for Non-ferrous Metal Research. Specializing in powder metallurgy, Prealloy Spherical SS-PREP<sup>®</sup> Powder, and HIP service& components. Sino-Euro is committed to be a valued supplier, providing high quality and reliable products to not only meet customer expectations but to exceed them. Sino-Euro is committed to continuing the bleeding-edge powder metallurgy research. Xi'an Sino-Euro Materials Technologies Co., Ltd

No.45, 2ndFengcheng Road, Xi'an, Shaanxi, China Phone: +86 187 9194 1802

Web: www.c-semt.com





#### Distributor

#### Taiyo Wire Cloth Co.,Ltd

TWC aims to create new value with customers by using the latest technologies for the next generation based on the unique technologies that we have cultivated over many years.

We are contributing to a wide range of industries in manufacturing lines, functional components of equipment that support social infrastructure, and other areas that do not involve the eyes of customers.

TWC offer a variety of high-temperature mesh belts for various applications.

#### **Gold Sponsor**

Taiyo Wire Cloth Co.,Ltd 1-11-7 MinamiSenba Chuo-ku, Osaka Japan 542-0081 Phone: +81-6-6261-0851 Web: https://www.twc-net.com/



#### Distributor

#### New Metals and Chemicals Corporation, Ltd.

We are trading company that specializes in raw materials for industry, especially metal powder such as CIP, atomized powder and more.

We will propose products from various supplier in Japan and/or oversea according to customer's demand.

#### New Metals and Chemicals Corporation, Ltd.

Kyobashi TD Bldg. 2-5, 1-chome, Kyobashi,Chuo-ku, Tokyo, 104-0031 JAPAN

**Phone:** +81-3-3231-8600 **Web:** https://www.newmetals.

co.jp/english.html



#### Distributor

#### PACIFIC SOWA CORPORATION

#### PACIFIC SOWA CORPORATION

Marunouchi Eiraku-Bldg., 1-4-1, Marunouchi Chiyoda-ku, Tokyo, 100-0005 Japan

Phone: +81-3-4243-1227 Web: https://www.pacificsowa. co.jp/eng/



#### Equipment

#### AMAZEMET

AMAZEMET is a manufacturer of equipment for metal powder production, new alloy prototyping, and heat treatment. The main focus of the company is in the areas of new materials, R&D, and industrialization. AMAZEMET supports universities and research facilities around the world in creating additive manufacturing innovations. Delivering ultrasonic atomizers it enables its customers to produce in-house highly spherical metal powders of custom alloying systems while providing compact high-vacuum furnaces allows customers to perform complex heat treatment procedures maintaining perfect purity of the parts.

#### **Gold Sponsor**

#### AMAZEMET

al. Jana Pawła II 27, 00-867 Warsaw, Poland **Phone:** +48 573 481 303

**Web:** https://www.amazemet. com/





#### **BluePower Casting and Powder Production Systems**

Innovative Solutions for Casting processes and Powder Production from a single source for your requirements today and tomorrow.

We offer you a wide range of systems for casting processes with lost and permanent molds, for the production of first-class semi-finished products, for recycling as well as for the production of high-quality metal powders.

Our AU-series atomizers are optimized for smaller batches and frequent changes of alloy or particle size without cross-contamination and are characterized by short cycle times. You have the choice between production capacities of 0.4, 1.5, 3.4, 12 and 25 liters. Depending on the version and crucible used, AU-series systems are suitable for alloys based on Cu, Au, Ag, Sn, Fe, Co, Ni, Pd, Pt and others such as AI (on request). Our AC-series Air Classifiers are designed for the same purpose, the economical separation of metal powders into fine and coarse material, whereby the separation point can be defined almost arbitrarily.

BluePower Casting and Powder Production Systems

Brettenerstrasse 32, 75045 Walzbachtal

**Phone:** +497203 9218 38

**Web:** www.bluepower-casting. com



#### Equipment

#### **CREMER Thermoprozessanlagen GmbH**

CREMER is a world-leading manufacturer of furnace systems for thermal treatments with controlled temperatures and process temperatures from 400°C to 2500°C for components, parts, granulates and powders.

The company has an extensive product portfolio for applications in the fields of PM (Powder Metallurgy), CIM (Ceramic Injection Moulding), MIM (Metal Injection Moulding) and AM (Additive Manufacturing) as well as in the field of advanced ceramics (high alumina).

CREMER also offers heat treatment systems for ferrous and non-ferrous powders. These include calcination, carburisation, carbonisation, pyrolysis and customised technical processes under various furnace atmospheres (e.g. hydrogen, air, endogas, nitrogen mixtures and argon).

Since 2012, CREMER has also been known as a manufacturer of Hot Isostatic Presses (HIP) and Cold Isostatic Presses (CIP).

CREMER stands for Made-in-Germany, continuity, flexibility and reliability. It is a medium-sized family business with more than 100 employees, a high level of vertical integration and extensive expertise in plant engineering and process technology. CREMER offers its customers worldwide outstanding 24/7 full-service support from its own workshop with turnkey installation, commissioning, training, spare parts service and maintenance.

#### CREMER Thermoprozessanlagen GmbH

Auf dem Flabig 6, D-52355 Dueren-Konzendorf/Germany

Phone: +49 2421 96830-0

Web: www.cremer-polyfour.de



#### Equipment

#### DORST Technologies GmbH & Co. KG

DORST Technologies is a leading international supplier of machinery and complete production systems for ceramic and powder metallurgy components. The company specializes in raw material processing, forming and automation. DORST Technologies has indepth knowledge of the individual process steps and interactions involved in the manufacturing of various end products. Intelligent system solutions from DORST Technologies are the result of decades of research and development and of intensive cooperation with customers and partners all over the world. Quality is part of an integrated approach at DORST Technologies. Customer satisfaction is paramount, but great importance is also placed on employees and suppliers. DORST Technologies continually strives to optimize the interaction of all involved parties within the framework of a quality management system meeting ISO 9001 requirements. Quality made by DORST Technologies means far more than good product quality. Initial consultation, order processing and excellent service are all part of a concept aimed at satisfying the high demands of customers.Being a leader means being innovative. Being innovative means having high internal standards for research and development. DORST Technologies has always been at the heart of the industrial development and application of many production processes in the ceramic and PM industries. At the DORST Technology denter with integrated tool and mould manufacturing, process technological know-how is continuously being advanced.Customers form a variety of industries are frequent visitors, as are competent partners who aid with specialized topics.

#### DORST Technologies GmbH & Co. KG

Mittenwalder Strasse 61, 82431 Kochel a. See, Germany

Phone: +49 8851 188 344

Web: https://www.dorst.de



#### Equipment

#### **HEXAGON PRODUCT DEV PVT LTD**

Hexagon – an ISO 9001:2015 certified company is world's one of the largest manufactuers of 3D Tumbler powder mixers. We make powder mixing machine in range from 2 Ltr hand operated, Laboratory size, Mid size and in large sizes as big as 3000 ltr and above. These mixers are ideal for uniform powder mixing with various bulk density or particle size or proportions. We export to more than 45 countries. We offer lot of customization like – stainless steel construction, liquid dosing, removable and non removable drum etc.

#### HEXAGON PRODUCT DEV PVT LTD

Plot no 10, Ratnakar Business Hub, Por Ramangamdi Road, GIDC, Por 391243, Gujarat, India

Phone: +91 92271 27517

Web: https://www.alphiemixer. com/





#### **JTEKT Thermo Systems Corporation**

JTEKT Thermo Systems Corporation is a manufacturer of heat treatment equipment. In 1959, we introduced the first Japanese-manufactured batch carburizing furnace to the world, and has since continued to manufacture industrial heat treatment equipment.

We provide heating systems for gears, bearings and other machine parts; non-metal materials such as ceramics and carbon; and powders used in rechargeable batteries and magnetic components, to name a few. Our products can address a wide range of industrial heat treatment needs, such as carburizing, nitriding, sintering, annealing and hardening.

We also offer safe and high precision atmosphere heat treatment technologies for all kinds of industrial products and materials, and actively work to promote the adoption of IoT, reduce environmental impacts, and cut operational costs.

#### Equipment

#### KOBAYASHI INDUSTRY CO., LTD.

The CNC powder press controlled by the servo motors and the tools for powder compacting are exhibited in our booth.

1. Demonstration in front of your eyes:

- Ceramic ball compacting
- Easy tool change system
- 2. See the press that communicates and shares data.
- 3. Display of the split die tools for the undercut products.

The die splits in three or four dies with the diagonal parting lines.

#### JTEKT Thermo Systems Corporation

29, Kabata-cho, Tenri-shi, Nara, 632-0084, JAPAN

Phone: 81-743-64-0985

**Web:** https://www.jtektthermos. com



### KOBAYASHI INDUSTRY CO., LTD.

1-372 Akahage, Ishiwaki, Yurihonjo-City, Akita 015-8686, Japan

**Phone:** +81-184-22-5320

**Web:** https://www.kobayashi-akita.co.jp



#### Equipment

#### Lauffer Pressen

LAUFFER is a leading manufacturer of powder and sizing CNC presses for the P/M and carbide industry with an experience for more than 150 years. During the last years, LAUFFER extended its portfolio by adding the servo-hydraulic C-Line and the servo-electric E-Line powder presses. This year, the new Lauffer E-Cell machine generation launches. The E-Cell, an integration of a servo-electric powder press with a robot-based parts handling, combines the latest developments in innovative press technology with LAUFFER's proven system knowhow for the P/M market. All Lauffer lines perfectly complement our portfolio with their smaller footprints, high energy, and cost savings.

Lauffer Pressen

Industriestrasse 101, 72160 Horb am Neckar, Germany **Phone:** +49 7451 902-0 **Web:** https://www.lauffer.de



#### Equipment

#### **Osterwalder Japan K.K.**

OSTERWALDER AG is a Swiss company with more than 100 years of tradition in press construction, and as a result is today the technology and market leader. Since 1990, we have concentrated our activities only on powder press technology.

Due to this profound experience, we have comprehensive know-how in all areas of powder pressing technology and are able to serve almost any customer requirement flexibly and quickly.

We are proud to offer our presses with Passion and highest quality to manufacture.

#### **Silver Sponsor**

#### Osterwalder Japan K.K.

Hibiya Central Building 14F, Nishi-shinbashi 1-2-9, Minato-ku, Tokyo 105-0003

Phone: +81-3-5532-5661

Web: https://www.osterwalder. com/en/





#### SACMI Imola SC

SACMI is an International Group world leader in the design, manufacture and supply of industrial solutions, specialized in equipment for Powder Metal, ceramics, beverage and packaging.

SACMI Group is present in 30 Countries worldwide through 80 Companies. Driven by continuous investments in research and technological innovation, conscientious attention to market needs and customer service quality, SACMI proposes a wide range of best in class equipment and technologies for the Powder Metal Industry.

From hydraulic to full electric presses, from furnaces to fully integrated automations, Customers benefit from a complete supply with a single partner.

#### **Silver Sponsor**

#### SACMI Imola SC

via Selice Prov.LE, 17/A 40026 Imbola (BO) - Italy

Phone: +39 0542607995 Web: www.sacmi.com/en-US/ metals



#### Equipment

#### SINTER LAND INC.

Introduction and explanation of Spark Plasma Sintering System.

#### SINTER LAND INC.

123,Amaike-machi, Nagaoka, Niigata 940-2055 Japan Phone: +81-258-25-8008 Web: https://www.sinterland.jp/



#### **Co-Exhibitor**

#### NJS Co.,Ltd

NJS is a professional team promoting SPS technologies by consultation, R&D of advanced materials, sales of SPS machines, products, components. NJS has got much information and accumulated know-how since the birth of this technology in Japan.

#### NJS Co.,Ltd

Office-sinyokohama 3F, 2-14-8 Shinyokohama, Kohoku-ku, Yokohama, Kanagawa, 222-0033 JAPAN

**Phone:** +81 45 475 1611 **Web:** http://www.njs-japan



#### Equipment

#### Sodick Co., Ltd

Sodick was established in 1976 and is a leading comprehensive machinery manufacturer. We develop, manufacture, distribute, and provide electrical discharge machines, high precision machining centers, injection molding machines, noodle-making machines, and aseptically-packaged cooked rice manufacturing systems.

In the metal injection molding (MIM), it is important to reduce flash and flow mark as much as possible for high quality and high productivity on each MIM green parts. V-LINE® injection molding machine (V-LINE®) that is sodick's original technology can help to reduce flash and flow mark on each MIM green parts because it has high stability, high reproducibility and high responsiveness. To show the superiority of V-LINE® in MIM, the experiment that compare V-LINE® to In-line injection molding machine (In-line) using spiral flow tester and the medical clip mold were carried. The experiment using the spiral-flow tester shows that the flow length using V-LINE® is 29% longer than that one using In-line. And in the experiment using the medical clip mold shows flash and flow mark that are not able to improve by using In-line can be improved by using V-LINE®.

Sodick Co., Ltd

3-12-1 Nakamachidai, Tsuzukiku, Yokohama, Kanagawa 224-8522 Japan

Phone: +81-45-942-3111

Web: www.sodick.co.jp/en/





#### Tekna

Tekna produces high-purity metal powders for 3D printing in the aerospace, medical and automotive sectors, as well as optimized R&D plasma systems for rapid material development easily scalable to industrial solutions for 24/7 operation:

- Spheroidization process allows to transform angular powder into highly spherical powder especially designed for advanced part manufacturing processes such as Additive Manufacturing, Metal Injection Molding and near net shape Hot Isostatic Pressing.
- Nanopowder synthesis process is designed to produce a wide range of high purity materials (Ceramics, Pure Metals, Alloys,...) at high yield even below 100 nm.

Over the last 30 years, Tekna has designed and manufactured more than 250 turnkey plasma systems, supported by customer service and maintenance centers based in Americas, Europe and Asia.

#### Tekna

2935 Boul.Industriel, Sherbrooke, Québec,J1L 2T9 Canada

Phone: +337 88 56 71 76

Web: www.tekna.com



#### Equipment

#### Yangzhou Haili Precision Machinery Manufacturing Co., LTD

Yangzhou Haili Precision Machinery Manufacturing Co., Ltd, has 40,000 square meters area in total with registered capital of 6.6 million USD.

We focus on manufacturing full-automatic powder compacting press, electric press machine, hydraulic press machine and sizing machine over 30 years. Our products range from 1 ton to 850 ton. Machine has configured with floating die set, from U1L1 to U3L5, satisfy with all kinds sintered parts requirements. The additional spring back function well support to make complicated sintered parts.

Our company provides updated one-stop full set service from consultancy, design, plan, production, installation, commissioning and after sale, continuously improve the client experience.

Our company has been through the ISO9001 international quality system certification and European CE certification. We have 7 patents, 47 utility model patents, 1 appearance patent.

Our machine has been dispatched to India, Vietnam, Russia, Japan, Malaysia, Thailand, Brazil, Mexico, Argentina, Turkey, Iran and other countries all over the world with good reputation from our customer.

#### **MIM Components**

#### **CASTEM CO.,LTD**

Both Japan and overseas factories have operated quality control under the steady management system that acquired ISO9001. Also, we have a system of quality control with various measuring equipment such as coordinate measuring machines and image measuring machines.

We have multiple factories in Japan, Thailand, the Philippines, and Colombia. It is possible to realize a steady supply even in an emergency.

#### **Bronze Sponsor**

#### Yangzhou Haili Precision Machinery Manufacturing Co., LTD

Pangu industrial Park, West Area, Yangzhou, China

**Phone:** +86-15062839555, 15252537339 (Mr. Luan)

**Web:** http://www. hailijixie.com



#### **Bronze Sponsor**

#### CASTEM CO.,LTD

1808-1 Nakatsuhara, Miyuki-Cho, Fukuyama City, Hiroshima, Japan **Phone:** +81-84-955-2221

Web: https://www.castem.co.jp/ en/



#### **MIM Components**

#### IWAKI DIECAST Co.,Ltd.

IWAKI DIECAST Co., Ltd. is a comprehensive die casting manufacturer producing high quality aluminum, zinc, and squeeze products as well as small and complex shaped metal powder injection molding: Moldalloy (MIM).

Among its products, the company exhibits MIM, a technology for mass-producing complex three-dimensional parts made of steel and stainless steel with high precision and high density, which is difficult to achieve with conventional machining methods.

#### IWAKI DIECAST Co., Ltd.

51-2, Aza Yamazaki, Washoku, Yamamoto-cho, Watari-gun, Miyagi

Phone: 0223-37-3322 Web: https://www.iwakidc.co.jp/



Exhibition



#### **MIM Components**

#### Longding New Materials Technology Co., Ltd. in Yingtan City, China

Yingtan Longding New Material Technology Co., Ltd. was established in March 2011 and is a leading supplier of stainless steel powder production in terms of technology and sales in China. The company is committed to developing advanced ultrahigh pressure, high flow water gas combined atomization production technology, and the stainless steel series MIM powder prepared has reached the international advanced level.

We have stably provided domestic and foreign customers with a series of powders, including 316L, 17-4PH, 304L, 440C, HK30, F75, low alloy steel, high-strength steel, FeSiCr, FeNi, FeCo, etc., with D50 of 6um, 8um or 10um, D90 of 16um, 20um or 25um, and vibration compaction of 4.30-5.1g/cm3. The company has passed ISO9001, ISO140001 and other system certifications. The second phase of Longding Company's production base has been completed, and the 10000 ton powder production base has been put into use. Longding Company adheres to the business philosophy of "honest operation, innovation driven, and customer first". By improving its powder metallurgy atomization technology level, Longding powder's influence in the industry is enhanced, and more professional technical services are provided to customers in related fields.

Longding New Materials Technology Co., Ltd. in Yingtan City, China

Room306, Building A, Yuanhao Garden, No. A88 Caihuying East Street, Beijing, China

Phone: +86 13910824469

Web: http://www. ldpowder.com/



#### **MIM Components**

#### **INDO-MIM Limited**

Established in 1996, INDO-MIM embarked on its journey with a vision to become a leading global supplier of Metal Injection Molded products. INDO-MIM is a fully integrated MIM parts producer with capabilities and proficiency in design, tooling, materials and a full range of finishing and assembly operations.

INDO-MIM is a one-stop solution provider with its manufacturing plants in India, USA and UK. Additional capabilities include Ceramic Injection Molding, Precision Investment Casting, Precision Machining, Special Processes, Additive Manufacturing and Metal Powders **INDO-MIM Limited** 

#45(P) KIADB Industrial area Hoskote, Bengaluru -562114, INDIA

**Phone:** +91 80 22048834 **Web:** www.indo-mim.com



#### **MIM Components**

#### **NIPPON PISTON RING CO., LTD.**

In recent years, diverse processing technologies and methods, such as machining, precision (lost-wax) casting, die casting, press sintering, are being selected and adopted for the forming of metal parts to meet functional and cost requirements. METAMOLD, a metal injection molding (MIM) process, developed as a new 5th generation processing technology in addition to these processing technologies based on our long cultivated metallurgy technology, enables the production of very complex shaped parts similar to plastic products or die cast products, but with savings in resources and energy.

Features of METAMOLD.

- 1. Costs reduced by forming of complex shaped items integrally.
- 2. Enables highly flexible design focused on design and functionality.
- 3. Excellent properties, such as high density and high strength promised.
- 4. Shows superb dimensional accuracy.
- 5. Diverse processing possible.

#### **MIM Components**

#### TAISEI KOGYO CO., LTD.

Our know-how is unique in the MIM industry and unmatched by any other company.

- Achieving accuracy equivalent to that of machined components.
- Enabling free-form shapes with our unique lost-core process, 3D-µMIM<sup>®</sup>.
- Reducing lead times dramatically with our the world's leading LMM 3D printer.

#### **Bronze Sponsor**

#### NIPPON PISTON RING CO., LTD.

NO.1111 NOGI, NOGI-MACHI SHIMOTSUGA-GUN, TOCHIGI-PREF, 329-0114 JAPAN

Phone: +81-280-57-1234

**Web:** https://www.npr.co.jp/ english/index.html



#### TAISEI KOGYO CO., LTD.

26-1 Ikeda-Kitamachi, Neyagawa, Osaka, 572-0073, Japan

Phone: +81 072-829-3588

**Web:** https://www.taisei-kogyo. com/en/





#### Asahi Kasei Corp.

Asahi Kasei have a lot of successful business for various application with the one of our engineering plastics line-ups, TENACTM, as trade name of POM (Polyacetal). POM is commonly used as a resin constituent of PIM binders due to the high strength of POM itself and its decomposition performance with no residue under application of acid or heat.

Asahi Kasei has accomplished to develop the first TENAC POM grade line-ups for powder injection molding (PIM) application, FF520, that offers suitable binder products for catalytic debinding in PIM. TENAC<sup>™</sup>-C FF520 obtains the superior mechanical properties of POM and also ultra-high flowability. In addition, not only TENAC<sup>™</sup>-C FF520, but we also have newly developed TENAC<sup>™</sup>-P, a polymer binder suitable for thermal debinding.

TENAC<sup>™</sup>-P is the best thermal debinding binder for Metal Injection Molding. By using this binder, it is possible to obtain a metal sintered body with less voids, particularly in metals like stainless steel.We are going to give a verbal presentation on TENACTM-P to you on this time.

Please contact Asahi Kasei, if you have any enquiry or technical regarding POM binders. As the extensive-experienced engineer in the engineering plastic filed, we would provide the best solution to you.

#### **Raw Materials**

#### DOWA ELECTRONICS MATERIALS CO., LTD.

We offer a wide variety of metal powders and technologies for electronic applications.

The reduced iron powder is a sponge-like iron-based product obtained by reducing iron oxide. It is used for various applications including welding rods, bearing parts, surface processing media, oxygen absorbers, and disposable heating pads. The carrier powder is spherical soft ferrite used in electro-photo printers such as copiers. We are able to control the carrier powder electrical characteristics (resistivity), magnetic characteristics (magnetizing force), and physical characteristics (specific gravity and particle size distribution). Within rechargeable battery-related products, we offer coating materials for positive electrode active material and solid electrolyte powders that can be used for all-solid-state batteries. The coating materials for positive electrode active material exhibit excellent battery resistance and durability when applied on active materials. The solid electrolyte powders are characterized by a low-temperature sintering process and high ionic conductivity when used in oxide-based all-solid-state batteries. The coating materials is oxide-based all-solid-state batteries. The coating materials can improve insulation and durability by forming a uniform SiO2 coating layer on powder. We offer insulation-coated magnetic powder and its coating processing, applicable for inductors.

In addition, we are introducing new materials including cerium oxide, catalyst materials, cosmetic materials, and negative thermal expansion materials.

#### **Raw Materials**

#### **EPSON ATMIX CORPORATION**

EPSON ATMIX is a leading manufacturer of high-quality water-atomized, spherical powders for metal Injection molding, additive manufacturing, and other markets.

Alloy selection includes iron-based, nickel-based, and cobalt-based alloys with particle size ranging from sub-20 microns to sub-3 microns distributions.

Advanced in Atmix's high-pressure water atomization process have made sub-10 microns powders cost-competitive while offering improvement in surface quality, dimensional stability, and final density on your parts production.

#### Asahi Kasei Corp.

Hibiya Mitsui Tower (TOKYO MIDTOWN HIBIYA) 1-1-2 Yurakucho, Chiyoda-ku, Tokyo 100-0006

**Phone:** +81-(0)3-6699-3388

**Web:** https://www.asahi-kasei-plastics.com/



#### **Bronze Sponsor**

## DOWA ELECTRONICS MATERIALS CO., LTD.

22F, Akihabara UDX, 4-14-1, Sotokanda, Chiyoda-ku, Tokyo, Japan

**Phone:** 03-6847-1256

**Web:** https://www.dowaelectronics.co.jp/en/



#### **Gold Sponsor**

#### **EPSON ATMIX CORPORATION**

4-44 Kaigan Kawaragi Hachinohe Aomori 039-1161 Japan

**Phone:** +81-178-73-2801 **Web:** www.atmix.co.jp/en



#### **Raw Materials**

#### EML (Eloi MateriaLs) Co., Ltd.

Founded based on technological innovation, EML (Eloi MateriaLs) provides total solutions for advanced materials by developing breakthrough technologies and producing world-class products in advanced alloy materials, high-purity spherical metal powders, soft-magnetic materials/ components, PVD coating/targets, and metal 3d printing.

#### EML (Eloi MateriaLs) Co., Ltd.

#409, 77 Changnyong-daero 256beon-gil, Yeongtong-gu, Suwon-si, Gyeonggi-do, Republic of Korea

**Phone:** +82-31-5186-6283 **Web:** www.eloiml.com





#### FUKUDA METAL FOIL & POWDER CO., LTD.

Fukuda Metal Foil & Powder Company's mission is to be a "Metal Stylist", freely designing the internal structure and surface morphology of metal foils and powders to create ever thinner and finer metal materials. Fukuda is committed to the continuing exploration of materials science and contributing to the development of industry and society.

FUKUDA supplies a wide variety of materials and other products developed to meet the needs of each new generation, based on FUKUDA's extensive metal powder and metal foil technology accumulated over many years, such as raw materials for printing or other decorative applications, metal foils capable of both high transmission speeds and bending resistance, nanoparticles, and metal powders for 3D printing applications.

#### **Raw Materials**

#### Höganäs Japan K.K./ Höganäs AB (Co-Exhibitor)

Höganäs develops, manufactures, and sells metal powders that open up a world of opportunities. We are on an ongoing sustainability business transformation journey to become the preferred sustainability powder producer in the world. Our vision is to drive positive change through material innovation. Our product range includes pure iron powders, low-alloy steel powders, stainless steel powders, and press-ready powder mixes. Höganäs products are tailored to meet demands on part precision, productivity, performance, and cost, and many of our brands, such as Distaloy<sup>®</sup>, Astaloy<sup>™</sup>, and Starmix<sup>®</sup>, are regarded as industry standards.

In our three global Höganäs Customer Development Centers, we invite customers and end-users to work alongside our expert team with application engineering and prototyping. Alongside Pressing and Sintering Powders, we also have a wide range of metal powders for additive manufacturing.

#### **Raw Materials**

#### JFE Steel Corporation

JFE Steel is a steelmaker engaged in the total steel-making process, taking iron ore raw material and turning it into final products. Boasting one of the world's greatest capacities for steel production, JFE Steel satisfies customers by producing steel under a corporate philosophy of "contributing to society with the world's most innovative technology.

#### **Platinum Sponsor**

## FUKUDA METAL FOIL & POWDER CO., LTD.

20, Nakatomi-cho, Nishinoyama, Yamashina-ku, Kyoto 607-8305, Japan

Phone: +81-75-581-2161 Web: https://www.fukudakyoto.co.jp/en/



#### **Gold Sponsor**

#### Höganäs AB

Bruksgatan 35, 263 39 Höganäs Sweden

Phone: +4642338000

Web: www.hoganas.com

## Höganäs 🖽

#### **Gold Sponsor**

#### JFE Steel Corporation

Hibiya Kokusai Building, 2-3 Uchisaiwai-cho 2-chome, Chiyoda-ku,Tokyo 100-0011, Japan

Phone: (81)3-3597-4063

**Web:** https://www.jfe-steel. co.jp/en/index.html



JFE Steel Corporation

#### **Raw Materials**

#### **Makin Metal Powders**

Makin Metal Powders provides Copper Powder, Bronze Powder, Tin Powder and Infiltrants from custom-built manufacturing facilities in Rochdale, United Kingdom and, for certain grades, our new facility in Thailand.

One of the largest European producers of copper and copper alloy powder and a member of the GRIPM family of companies, MMP offers global product technology and supply chain capability, with a wealth of experience in the copper powder industry stretching back over 70 years.

As a member of the GRIPM family of companies we have access to a huge R&D resource and can help customers with their needs for Additive Manufacturing (powders and components), Tin-based solder powders and pastes, NdFeB magnet powders and other high-tech materials.

We have a wide network of Agents and Distributors across Asia (including Japan, China, Thailand, Singapore, Malaysia, Indonesia and Korea), Europe and The Americas.

#### **Makin Metal Powders**

Buckley Road, Rochdale, Greater Manchester, UK

Phone: +44 1706 717317

**Web:** https://www.makinmetals.com/





#### MUTSUMI SPECIAL ALLOY INDUSTRY CO., LTD.

We started material development. We manufacture the materials in-house, and we can also sell iron powder materials.

#### MUTSUMI SPECIAL ALLOY INDUSTRY CO., LTD.

6-1-20 Tsuruma, Machida-shi, Tokyo

**Phone:** +81 42-795-0031 **Web:** https://mutsumi-t.jp



#### **Raw Materials**

#### OSAKA Titanium technologies Co.,Ltd.

OSAKA Titanium technologies is one of the world largest titanium sponge manufacturers and our high-quality products are used for various fields such as aerospace, medical, semiconductor, etc. We also manufacture commercially pure titanium and titanium alloy powders for MIM (Metal Injection Molding), AM (Additive Manufacturing), and other markets.

We have been producing gas-atomized spherical titanium powder (TILOP\*) since 1990 by using our own designed and made EIGA (Electrode Induction Melting Inert Gas Atomization) furnace. The advantage of our EIGA is that does not require a crucible that might be a source of inclusions or contaminations. Since we are known as one of the world largest titanium sponge producers, we have established manufacturing process that prevent contamination of high-melting-point metals which enables us to provide high-quality titanium powder to customers mainly in aerospace and medical industries. In addition, we have the advantage of quality control system that can ensure consistent traceability from titanium ore to powder.

Recently we have commercialized super fine powder for MIM and Binder Jet of AM. We are pleased to introduce that we can control the oxygen value of the powder according to the customer's requirements.

#### OSAKA Titanium technologies Co.,Ltd.

1 Higashihama-cho,Amagasaki, Hyogo 660-8533,Japan

Phone: +81-3-5776-3103

Web: https://www.osaka-ti.co.jp/ e/



#### **Raw Materials**

#### PolyMIM GmbH

PolyMIM GmbH has been producing and marketing its line of standard and custom-made polyMIM®feedstock since 2005. Metal injection moulding allows for cost-effective production of complex metal components by combining the processes of injection moulding and sintering. We developed an environmentally sound water-soluble binder system. Thus polyMIM® combines the cost and quality advantages of metal injection moulding with ecological demands. In 2013 the new polyPOM feedstock based on a catalytic binder system was added to the range. All common MIM metal alloys are available as ready-to-mould standard feedstock compounds. Our portfolio includes low alloy, stainless, copper, titanium, titanium alloy and hard metal feedstock. PolyMIM GmbH meets highest quality requirements and is certified in accordance with DIN ISO 9001.

#### PolyMIM GmbH

Am Gefach **Phone:** +49 (0) 6751 / 85769-0 **Web:** https://www.polymim. com/



#### **Raw Materials**

#### Pometon Spa

Founded in 1940, Pometon is today the largest European producer of copper powder and offers a unique service to its clients producing also ferrous, non-ferrous powders and stainless steel shot.

Pometon produces pure powders such as iron, copper (both electrolytic and atomized), bronze, brass, tin, zinc, pressready iron and bronze premixes.

Its division, Pometon Plus is fully dedicated to the production of spherical metallic powders for 3D printing using VIGA & EIGA technology, and can produce customised powders in Copper, Stainless Steel, Cobalt-Chromium, Nickel-Chromium Titanium and Alloys.

Based in Maerne, Venice, Pometon has subsidiaries in UK, Spain, Germany, India, Turkey, Korea and a second production site in Serbia, cooperates with the major automotive brands and the renowned global players in the chemical industry, aerospace and electronics sectors.

Equipped with latest technology, the R&D Centre collaborates with the most important worldwide universities with the objective of producing customized powders to meet individual customer requirements and to ensure that product quality remains consistent over time.

#### **Pometon Spa**

Via Circonvallazione, 62 – 30030 Maerne di Martellago (VE) Italy

Phone: +39 0412903611

Web: www.pometon.com





#### **Rio Tinto**

Rio Tinto Metal Powders (RTMP), previously known as QMP distinguishes itself as the sole prominent manufacturer globally to produce iron powder from ore with minimal residual content. This unique process ensures that our powders are of unparalleled purity and uniformity.

At Rio Tinto Metal Powders, we are dedicated to innovating and supplying the essential materials required for the present and future demands of the world. Our state-of-the-art production and research facilities located in Canada and China, provide a comprehensive assortment of iron and steel powders, catering to a wide spectrum of powder metallurgy applications. Furthermore, Rio Tinto Metal Powders actively supports various industries, notably the energy transition sector, by developing specialized iron powders for a multitude of pioneering applications and markets. These efforts contribute to the advancement of a more sustainable future, with products like soft magnetic composites (SMC) for electric motors, and materials for battery and energy storage solutions, as well as additive manufacturing (3D printing).

As a steadfast and long-term ally, RTMP is committed to achieving exemplary Environmental, Social, and Governance (ESG) standards. We have pledged to cut our emissions by 50% by the year 2030 and are on a strategic path to reach net-zero emissions by 2050.

#### **Raw Materials**

#### Sandvik Additive Manufacturing

We leverage more than 160 years of materials expertise to develop and optimize the widest range of alloys on the market for advanced near-net-shape and green manufacturing technologies such as additive manufacturing and metal injection moulding.

Having gas atomized Osprey<sup>®</sup> metal powders for half a century, our portfolio includes materials like copper, titanium, and super duplex stainless steel – tailored to fit your every need.

#### **Rio Tinto**

200 E Randolph St Suite 7100, Chicago, IL 60601, USA **Phone:** +1 773 270 6500 **Web:** www.qmp-powders.com



Sandvik Additive Manufacturing Post address: 811 81, Sandviken, Sweden

Phone: +44 7594 515 578 Web: www.metalpowder. sandvik



#### **Raw Materials**

#### SLM Technology Private Limited

SLM is an Iron Powder manufacturer based in Odisha, India operating since 1992. It produces Sponge and Atomised Iron Powder. Its products includes pre-alloyed powders, diffusion alloyed powder, premixes and bonded mixes. It supplies its products to over 25 countries and its customers includes top PM companies. SLM is a well know name in Indian industry. The company aims to become most trusted technology partner for its customers. The company also produces gas atomised spherical bronze powder for filters. SLM Technology Private Limited

Uditnagar, Rourkela-04, Odisha, India

**Phone:** +91 9937822224 **Web:** www.slmmetal.com



#### **Raw Materials**

#### **Steppe Metal Powder LLC**

Steppe Metal Powder (SMP) was established in 2017 and operates in Ulaanbaatar, Mongolia. Being the first metal powder plant in Mongolia, SMP employes EU equipment and methods to produce high-grade water-atomized copper and copper-alloy powder. SMP's long-term objective is to expand and diversify its portfolio according to market trends and customer needs. SMP's productions activities are supported by its onsite laboratory which delivers most-needed laboratory tests on a prompt basis. The company works closely with R&D institutions in South Korea, Mongolia and Japan to align its products with the requirements of customers in conventional powder metallurgy, metal injection molding, hot isostatic pressing, spark plasma sintering and additive manufacturing.

Steppe Metal Powder LLC

Building #9, DSAA-1 Street, Bayongol-20, Ulaanbaatar 16102, Mongolia

Phone: +(976)75079900 Web: www.smp.mn



#### Software

#### IDAJ Co., LTD.

Next Generation DEM Particle Simulator Ansys Rocky

Ansys Rocky is an advanced engineering simulation tool that uses Discrete Element Method (DEM) to predict the behavior of bulk solid particles including powder in the efficient design and optimization of material handling equipment and processes. Ansys Rocky is capable of modeling real particle shapes including any solids, 2D shells, and rigid and flexible fibers.

The simulations are very fast and accurate with unique GPU (Graphics Processing Unit) solver technology.

You can simulate the behavior of different shaped and sized particles in many industrial applications.

#### IDAJ Co., LTD.

Yokohama Landmark Tower 37F, 2-2-1-1 Minato Mirai, Nishi-Ku, Yokohama City, Japan, 220-8137

Phone: +81 45-683-1990 Web: https://www.idaj.co.jp/ english/



#### Software

#### **Thermo-Calc Software**

For over 40 years, Thermo-Calc Software has been a global leader in developing software and databases used to predict and understand materials properties. Our products empower materials scientists and engineers to make better decisions by giving you access to accurate, reliable materials data. We offer over 40 databases, a flexible software platform that you can customize to meet your needs, and APIs to help you link Thermo-Calc calculations to other software programs or your own code. Our flagship product, Thermo-Calc, is used in over 60 countries around the world by top materials scientists and engineers. Our tools have been cited in over 33,000 peer-reviewed journal articles and over 1000 patent applications, and we are actively involved in collaborative research and development efforts with top universities and industry partners.

Thermo-Calc Software Råsundavägen 18, SE-169 67 Solna, Sweden Phone: +46-8-545 959 30 Web: https://thermocalc.com



#### Tooling

#### **DA CHEN MOLD**

With 40 years of expertise in PM Tooling manufacturing, DA CHEN MOLD, headquartered in Taiwan, has established a global presence with clients spanning across the world. Our unwavering commitment to excellence is underscored by a track record of delivering superior quality products. We pride ourselves on cutting-edge technology and a dedicated team, ensuring our customers receive the best-in-class solutions. At DA CHEN MOLD, precision is not just a standard; it's a tradition. Experience unparalleled craftsmanship and innovative solutions with us.

#### DA CHEN MOLD

No.436 Sec.2 Nankan Rd, Luzhu Dist, Taoyuan City, Taiwan. 33855

Phone: +88 6332221868 Web: http://www.dachenty. com.tw/



#### Tooling

#### **GF** Machining Solutions Ltd.

System 3R offers Tooling & Automation for efficient and accurate production of punches and dies. Gives an increased productivity in the tool shop by a reduction of the set-up times, improved accuracy & quality and reduced number of rejections. System 3R Tooling products are also perfectly suitable for the powder compaction process.

#### **GF Machining Solutions Ltd.**

TVP Bldg 3-9-13 Moriya-Cho, Kanagawa-Ku, Yokohama-Shi, Kanagawa-Ken, 221-0022 Japan

**Phone:** +81-45-450-1625 **Web:** https://www.gfms.com





#### Tooling

#### Jiangxi Ningheda New Material Co., Ltd.

Established in 2017, located in Fengxin Industrial Area, Yichun City, Jiangxi Province, China, Jiangxi Ningheda New Material Co., Ltd. is the subsidiary company of Jiangxi Ningxin New Material Co., Ltd.

Jiangxi Ningxin New Materials Co., Ltd. was established in 2007. It is an enterprise specializing in the research and development, production and sales of special graphite. With a full set of special graphite production equipment, the process technology has reached advanced level in domestic market, and the market share in the special graphite industry is far ahead. On November 8, 2016, Ningxin New Materials was successfully listed on the New Third Board (stock abbreviation: Ningxin New Materials, stock code: 839719). In 2020, it was selected as a national-level specialized and new little giant enterprise. In May 2023, the company was successfully listed on the Beijing Stock Exchange.

Jiangxi Ningheda New Material Co., Ltd. is mainly engaged in graphite product processing, graphite product matching service, providing graphite materials, graphite electrode and graphite products for the lithium industry, rare earth industry, machinery industry, aerospace, semiconductor and solar photovoltaic industry, together with the corresponding products technical service and technical application of update program.

With excellent production technology, good customer service, high market share, and relying on the advantage of new material, capital and management of parent company (Jiangxi Ningxin New Material Co., Ltd.), Jiangxi Ningheda New Material Co., Ltd. develops quickly. We devote to the extension of the special graphite industry chain, and make contributions for building the future whole graphite industry strategy.

#### Tooling

#### **NIIGATA SEIMITSU Co., Ltd**

Mold for sinter parts. Helical gear, Bearing ball, others.

Prototype processed product of soft magnetic material. (Somaloy prototyping material). stator core , others.

#### Jiangxi Ningheda New Material Co., Ltd.

Fengxin Industrial Area, Yichun City, Jiangxi Province, China

Phone: 0795-4605783

#### Web:

https://www.nhdgraphite.com/ ; https://nhdcarbon.com/



#### NIIGATA SEIMITSU Co.,Ltd

854-5 Urajionji, Iwatsuki-ku, Saitama-city Saitama 339-0002

Phone: +81-48-794-1911

Web: http://www.nsmold.co.jp/



#### Tooling

#### **ProGrit GmbH**

Innovative products combined with unique know how and purposeful engineering leads to the comprehensive mastery of the technology chain of compaction of metal and ceramic powders, building the base of success for our customers.

In addition to the innovative products ProGrit offers technical and economical consulting in the field of compaction, grinding, measurement, tool and production technology for the machine tool industry and the tool and die manufacturing.

ProGrit offers comprehensive and holistic consulting & engineering services - from the analysis of the current state up to the industrial realization and implementation of complex engineering solutions.

#### **ProGrit GmbH**

Kastellstrasse 6, 8623 Wetzikon, Switzerland

Phone: +414485426 Web: www.progrit.com



#### Tooling

#### Repton Co.,Ltd./ Imae Industries,Ltd.

Innovative products combined with unique know how and purposeful engineering leads to the comprehensive mastery of the technology chain of compaction of metal and ceramic powders, building the base of success for our customers.

In addition to the innovative products ProGrit offers technical and economical consulting in the field of compaction, grinding, measurement, tool and production technology for the machine tool industry and the tool and die manufacturing.

ProGrit offers comprehensive and holistic consulting & engineering services - from the analysis of the current state up to the industrial realization and implementation of complex engineering solutions.

Repton Co.,Ltd./ Imae Industries,Ltd.

5-15-7,Higashiamagawa,Takats uki,Osaka 569-0012,Japan **Phone:** +81-72-660-5005 **Web:** https://repton.co.jp/en/





#### Other

#### Inovar Communications Ltd (Metal AM Magazine | PIM International | PM Review)

Inovar Communications is home to:

- <u>PM Review</u> for Powder Metallurgy and the metal powder industry. Discover more and download the latest issue <u>here</u>.
- Metal AM for all metal-based 3D Printing / Additive Manufacturing. Discover more and download the latest issue here.
- <u>PIM International</u> for MIM, CIM, and sinter-based Additive Manufacturing. Discover more and download the latest issue <u>here</u>.

Our aim is to deliver the highest quality technical journalism through print and digital platforms. Alongside relevant and timely industry news and analysis, we dive deeper into the world of advanced manufacturing through our extensive feature articles.

Inovar Communications Ltd (Metal AM Magazine | PIM International | PM Review)

11 Park Plaza | Battlefield Enterprise Park | Shrewsbury | SY1 3AF, UK

**Phone:** +44 (0)1743 469909

Web: https://www.metal-am.com/ | https://www.pim-international.com/ | https://www.pm-review.com/





## JPMA Special Seminar

#### Date : October 15 (Tue.) PM Venue : Exhibition Hall A, Pacifico Yokohama (1F)

JPMA introduced JPMA Special Seminar on PM93, PM2000 and PM2012. These JPMA Seminar got favorable comment from many visitors at that time and many people attended. This time JPMA will plan JPMA Special Seminar that will be useful for visitors. This seminar will include JPMA Awards and Case Studies of Production Efficiency Improvement. We will introduce up-to-date technologies in Japan by using this chance, please attend. This Seminar will be held at the special place in exhibition place. You don't need any application to attend.

#### JSS1: Introduction of JPMA Awards - Selection of JPMA Awards 2019 to 2023

The categories of JPMA Awards include New Product Award, Design Award, Material Award, Production Process Development Award, Equipment Development Award and Powder Award. And from 2003, Grand Prix Award was settled for extremely good item. We introduce 4 items that we selected award winners from 2019 to 2023 at WORLD PM2024.



JSS1-4 Practical Application of High Frequency & High Strength Reactor Core

JSS1 Program

#### JSS1-1

Sintered part for motorcycle transmission

Mr. Toshiro Sato DIAMET CORPORATION

#### JSS1-2

Net shape manufacturing of complex multi-stage shaped parking parts with two-pcs simultaneous compacting. **Mr. Kohei Otomo (Sumitomo Electric Sintered Alloy, Ltd.)** SUMITOMO ELECTRIC INDUSTRIES, LTD.

#### JSS1-3

Oil-impregnated Sintered Bearings with Excellent Wear Resistance by Applying Density Gradient

Ms. Ayaka Sagae PORITE CORPORATION

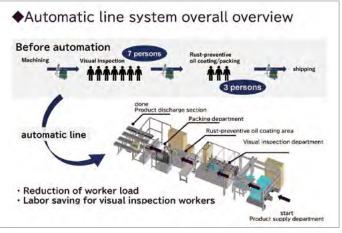
#### JSS1-4

Practical Application of High Frequency & High Strength Reactor Core **Mr. Yoshihiro Mikura (FINE SINTER CO., LTD.)** FINE SINTER CO., LTD./Daido Steel Co., Ltd.



#### JSS2: Introduction of Case Studies of Production Efficiency Improvement -Selection of Case Studies of Production Efficiency Improvement 2019 to 2023

The themes in Japan's PM production are automation, energy saving, and quality improvement. By this Theme, main 5 PM companies in Japan will introduce their activities that we selected Case Studies from 2019 to 2023 at WORLD PM2024.



#### JSS2-4

Appearance inspection of complicated outer shape sintered equipment, application of anti-corrosion oil, construction of automatic packing line

#### JSS2 Program

#### JSS2-1

Touchless Integrated Production Line for Compacted Soft Magnetic Cores for Ignition Coils

#### JSS2-2

Improved productivity of electric VCT eccentric shaft components

Mr. Mamoru Nakamura FINE SINTER CO., LTD.

Mr. Eisuke Hiro Sumitomo Electric Sintered Alloy, Ltd.

#### JSS2-3

Improvement of Mold Maintenance for Powder Metal

Ms. Yuuko Sakuragawa NTN Advanced Materials Corporation

#### JSS2-4

Appearance inspection of complicated outer shape sintered equipment, application of anti-corrosion oil, construction of automatic packing line

Mr. Chihiro Enomoto DIAMET CORPORATION

#### JSS2-5

**Quality Improvement in Machining Process** 

Mr. Makoto Yoshida PORITE CORPORATION

## Social Events



WORLD PM2024 offers a number of social events in addition to the main program, the technical programs, exhibition, and JPMA Special Seminars. Accompanying persons are welcome to take part in these events.

#### **OPENING and PLENARY SESSION**

Date : Mon., 14 October, in the morning Venue : Main Hall, Pacifico Yokohama Conference Center (1F) \*Congress Registration should be required.

#### **Opening Ceremony**

The organizers will make an opening address to mark the opening of the fourth Powder Metallurgy World Congress hosted by Japan.

#### **Global Review**

Representatives from APMA, MPIF and EPMA will give 20-minutes presentations. The speakers and the regions represented are as follows:

Asia: **Mr. Chiu-Lung Chu**, Asian Powder Metallurgy Association (APMA) North America: **Mr. Michael Stucky**, Metal Powder Industries Federation (MPIF) Europe: **Mr. Ralf Carlstrom**, European Powder Metallurgy Association (EPMA)

#### **Plenary Session**

Yansong Shen, The University of New South Wales, Australia

Eiichi Sato, Institute of Space and Astronautical Science (ISAS) / Japan Aerospace Exploration Agency (JAXA), Japan Manabu Tsuyoshi, Iwatani Corporation, Japan

Opening and Plenary Session event is sponsored by:

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**Michael Stucky** 

#### SUMITOMC ELECTRIC

**Ralf Carlström** 

Chiu-Lung Chu

#### **WELCOME RECEPTION**

Date : Mon., 14 October, in the evening

Venue : Annex Hall, Pacifico Yokohama (2F)

\*Congress Registration is required to attend the Welcome Reception. Registration for "Full Delegate", "JSPM/JPMA Member", "Chair/Speaker" entitles you to admission to the Welcome Reception for free.

T/MIX

A reception will be held to mark the opening of WORLD PM2024, beginning with a traditional "Kagamibiraki" ceremony. The reception is an opportunity for meeting old friends in the international powder metallurgy industry and making new ones with a buffet meal and drinks.

Welcome Reception event is sponsored by:

#### **CONGRESS PARTY**

Date : Wed., 16 October, in the evening

Venue : Grand Ballroom HOH-SHOH, Yokohama Royal Park Hotel (3F, Banquet Bldg.) \*Congress Registration is required to attend the Farewell Party. Registration for "Full Delegate", "JSPM/JPMA Member", "Chair/Speaker" or "Accompanying person" entitles you to admission to the Congress Party for free.

This is a buffet style party featuring some attractions such as fair booths of Matsuri. This will also foster friendships among the participants and give them the opportunity to enjoy each other at WORLD PM2024.

Congress Party event is sponsored by:





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## Technical Visit and Optional Tour

ALL tours operate in the afternoon on Thursday, 17 October 2024 with the following conditions. Guide : English-speaking guide service is included Meals : No meals Transportation : Bus

#### **Technical Visit / Sightseeing**

#### 1. Yamanashi Prefectural Maglev Exhibition Center & Mt. Fuji (Half day tour)

- Date : Thu., 17 October 2024 in the afternoon
- Fare : 14,500 JPY per person
- Course : Pacifico Yokohama and hotels 12:00 = Oshino Hakkai = Yamanashi Prefectural Maglev Exhibition Center = Mr. Fuji = 18:30 Pacifico Yokohama and hotels

**Oshino Hakkai**: Oshino Hakkai is a popular tourist destination near the base of Mount Fuji. It's a small area that features traditional village houses, shops and watermills set against a spectacular backdrop of Japan's most famous mountain.

Yamanashi Prefectural Maglev Exhibition Center: At the Maglev Exhibition Center that opened in conjunction with the commencement of testing at the Yamanashi Maglev Test Track, guests will not only be able to see tests with their own eyes but also learn about superconductive linear mechanisms and the Linear Chuo Shinkansen plan in detail.

- Note: Test run schedule of the week is announced on Friday evening of the previous week.
  - Details such as operating hours will not be announced in advance.
  - Test run schedule is the current schedule and is subject to
  - change or cancellation without notice due to the circumstances.

Minimum number of participants necessary for the tour: 20 persons





Oshino Hakkai

Linear Chuo Shinkansen

#### **Technical Visit**

#### 2. 3D Printing Corporation Factory (Half day tour)

- Date : Thu., 17 October 2024 in the afternoon
- Fare : 9,600 JPY per person
- Course : Pacifico Yokohama and hotels 13:00 = 3D Printing Corporation
  - = 16:30 Pacifico Yokohama and hotels

**3D Printing Corporation Factory**: 30 persons each for Resin 3D printer and Metal 3D printer. Demonstration includes designing 3D data and explanation of software.

Minimum number of participants necessary for the tour : 15 persons Maximum attendee of the tour : approx. 60 persons



3D Printing Corporation Factory

#### Sightseeing

#### 3. Hakone Sightseeing (Half day tour)

- Date : Thu., 17 October 2024 in the afternoon
- Fare : 15,000 JPY per person
- Course : Pacifico Yokohama and hotels 13:00 = Hakone Ropeway and Owakudani = 17:45 Pacifico Yokohama and hotels Hakone Ropeway and Owakudani: The observation platform offers breathtaking views of 'Owakudani', Hakone's most famous tourist spot. Desolate mountainside covered by plumes of smoke produce a distinct scene so fitting the area's former name of Hell Valley. Now, the Hakone Ropeway rising above Owakudani.

There are also many scenic spots to be seen from the ropeway. Traveling from Sounzan to Owakudani, passengers can see the bottom of the valley below, and, when on route to Togendai, they can enjoy views of Mt. Fuji and Lake Ashi.

Minimum number of participants necessary for the tour : 20 persons



Hakone Ropeway

Owakudani



## General Information

#### **Congress Date**

13-17 October 2024

#### Venue

#### PACIFICO Yokohama

1-1-1, Minato Mirai, Nishi-ku, Yokohama 220-0012, Japan

https://www.pacifico.co.jp/english

#### **Official Language**

#### English

#### **Important Dates**

#### **Application for Exhibition**

#### **Application for Sponsorship / Advertisement**

First Deadline	Fri.	, 29 March 2024
Second (final) deadline	Fri.	, 31 May 2024
Final deadline for sponsorship fee payment	. Fri.	, 28 June 2024

#### Registration

Registration open	. Tue., 2 April 2024
Early bird discount deadline	. Mon., 2 September 2024
Pre-registration deadline	. Sat., 12 October 2024

#### **Congress Proceedings**

All papers of Oral / Poster Sessions will be published in the Congress Proceedings. Guidelines for the preparation of manuscripts will be notified to authors with their acceptance letters **by the end of February 2024**.

The deadline for the manuscript will be **30 June 2024**.

The proceedings will be published after the Congress. The presenting author must complete the delegate registration and payment by **2 August 2024**.

All invited and contributed papers will be peer-reviewed by the Technical Committee.

At first, for all participants, the proceedings will be released on WORLD PM2024 website. After that all papers will be released on the online journal of JJSPM (Journal of the Japan Society of Powder and Powder Metallurgy) which has been selected the Scopus. This online Journal is the open access under the Creative Commons Attribution-Non Commercial-No Derivatives 4.0 International (CC BY-NC-ND 4.0) (Attribution-Non Commercial-No Derivatives) License (CC License). The authors must agree to be granted the CC license. The APC (Article Processing Charge) of the online journal of JJSPM is included the registration fee.

However, not all papers published in the proceedings of WORLD PM2024 will be published in the JJSPM online journal due to the judgment of the JSPM publication editorial board.

#### **Permission to Use Rights of Portrait**

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#### Access

#### https://www.pacifico.co.jp/english/access



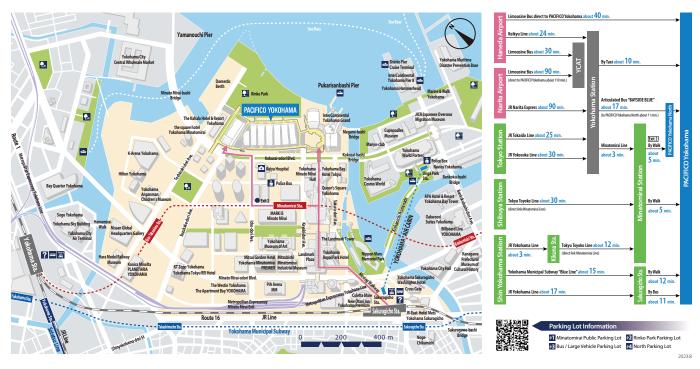
# PACIFICO YOKOHAMA

ACCESS GUIDE



About 40 minutes by direct limousine bus from Haneda Airport

- Nearest stations: Minatomirai Line Minatomirai Station / JR Sakuragicho Station
- 1-1-1 Minato Mirai, Nishi-ku, Yokohama 220-0012, Japan Tel: +81-45-221-2155 (General Information)
- \*To PACIFICO Yokohama North: 1-1-2, Minato Mirai, Nishi-ku, Yokohama



#### Wi-Fi Access

Free Wi-Fi access is available inside the venue.

Select SSID: FREE-PACIFICO \*Password is not necessary.

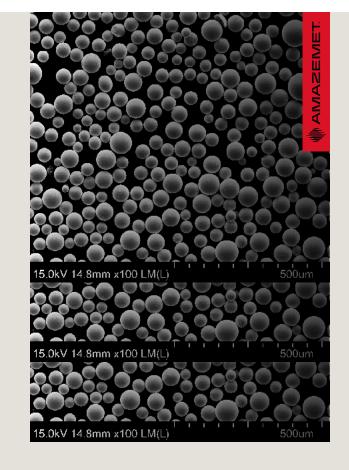
#### **About Yokohama**

Yokohama, is the first harbor city introduced to the world as the entrance to Japan. Since the time its port was opened, Yokohama has been vigorously acquiring new cultures and information from foreign countries and introducing to Japan our country's first-time-ever things from food to a wide range of cultures, which entitles Yokohama as the birthplace of Japan's modern culture. The Yokohama, referred to as "Hamakko" in Japanese, has been very cheerful at enjoying life and willing to adopt whatever is good. Such a tradition of the "Hamakkos" cultivated long ago has been incorporated into the present fashionable and sophisticated streetscape.

For more detailed information, please visit "Yokohama Official Visitors' Guide"; <u>https://www.yokohamajapan.com/about/</u>

#### Inquiries

WORLD PM2024 Secretariat c/o JTB Communication Design, Inc. Celestine Shiba Mitsui Bldg., 3-23-1 Shiba, Minato-ku, Tokyo 105-8335, Japan E-mail: worldpm2024@jtbcom.co.jp TEL: +81-3-5657-0777



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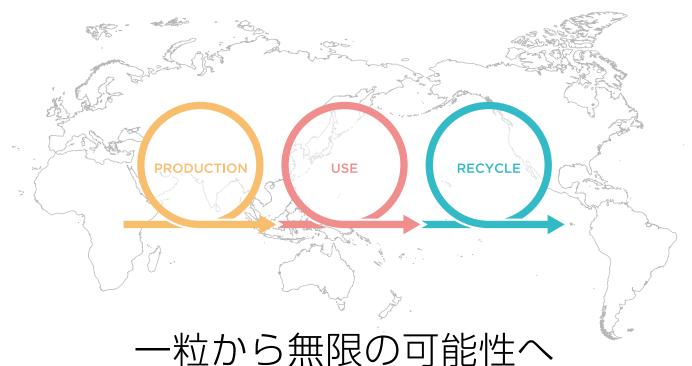
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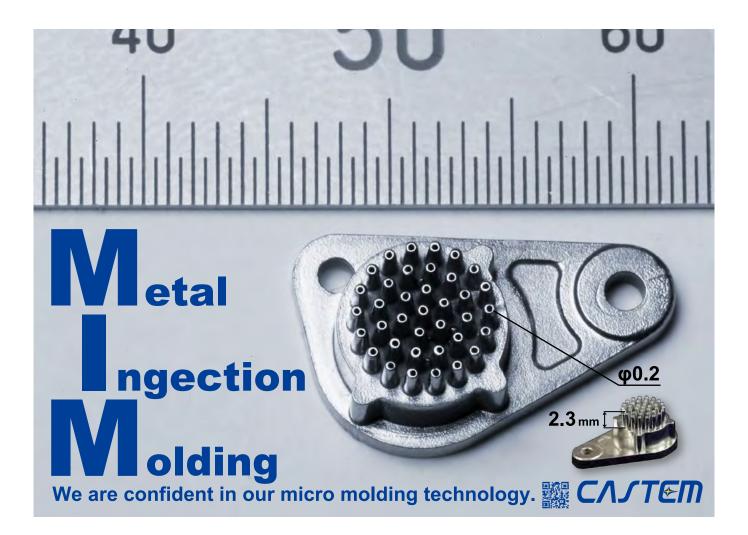


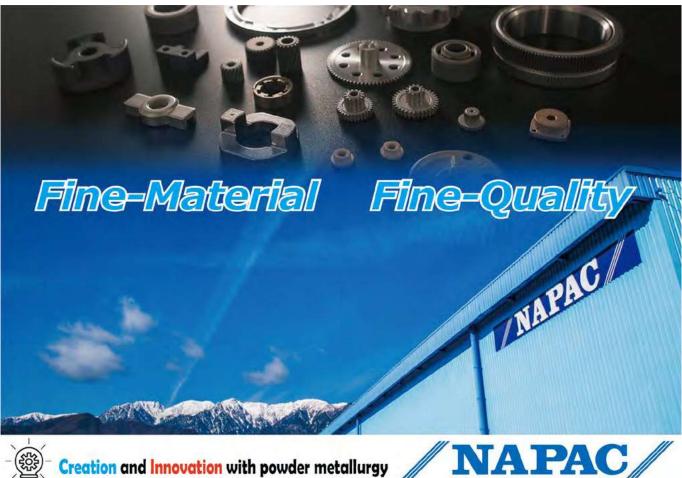


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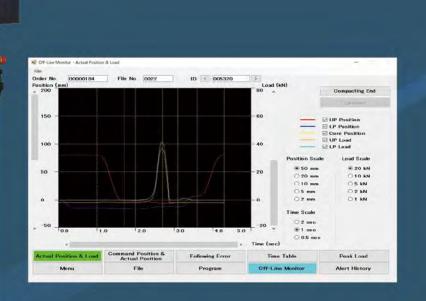
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