



JAPAN POWDER  
METALLURGY ASSOCIATION

2024

# JPMA Annual Report

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Year ended December 31, 2024

## Executive Director Report

Dear friends,

We would like to express our sincere gratitude to everyone who regularly cooperates with JPMA's activities.

The main event for 2024 was the international conference in Japan. WORLD PM2024 YOKOHAMA was held in October at Pacifico Yokohama, co-hosted by the Japan Powder Metallurgy Association and the Japan Powder and Powder Metallurgy Association. This was the fourth time the conference was held in Japan in 12 years, but it was a success. Thanks to everyone's cooperation and the support of MPIF, EPMA, and APMA. We would like to express our gratitude once again.



Yoshio Uetsuki,  
Executive Director

In addition, JPMA and JSPM co-hosted a new project activity in 2024.

The project aims to address the electrification challenges facing the powder metallurgy industry, innovate future powder metallurgy technologies, develop materials that are both low carbon and high strength, establish recycling technologies, and train the next generation of engineers. A specific activity plan is scheduled to be formulated in 2025.

Meanwhile, next year, 2026, will be the milestone year for the 70th anniversary of the founding of the Japan Powder Metallurgy Association. We will start planning and preparing for commemorative events.

The JPMA Awards, established in 1979, celebrated its 46th anniversary this year. The new product awards are one New Design Grand Prize, three New Design Awards, two New Powder Awards, and two Effort Awards.

Major events included the 2024 New Year's Greetings Gathering and the 2024 Awards Ceremony (January), the JPMA General Meeting (May), and the Autumn General Meeting (November).

Human resource development activities are an important focus of the organization. The 3rd MIM Seminar (Intermediate Course) was held, and many participants attended the basic knowledge course and the improvement cases course. Also, the 3rd Powder Metallurgy Basic Course was held, contributing to the basic education of young employees. As for exchanges with overseas, in addition to participating in the "18th APMA Board of Directors" during the international conference in October, we also attended the "Tripartite Meeting" (EPMA/MPIF/APMA) to discuss the schedule of the World Conference and issues in the proceedings of the WORLD PM.

[Japan's Automobile and Powder Metallurgy Production in 2024]

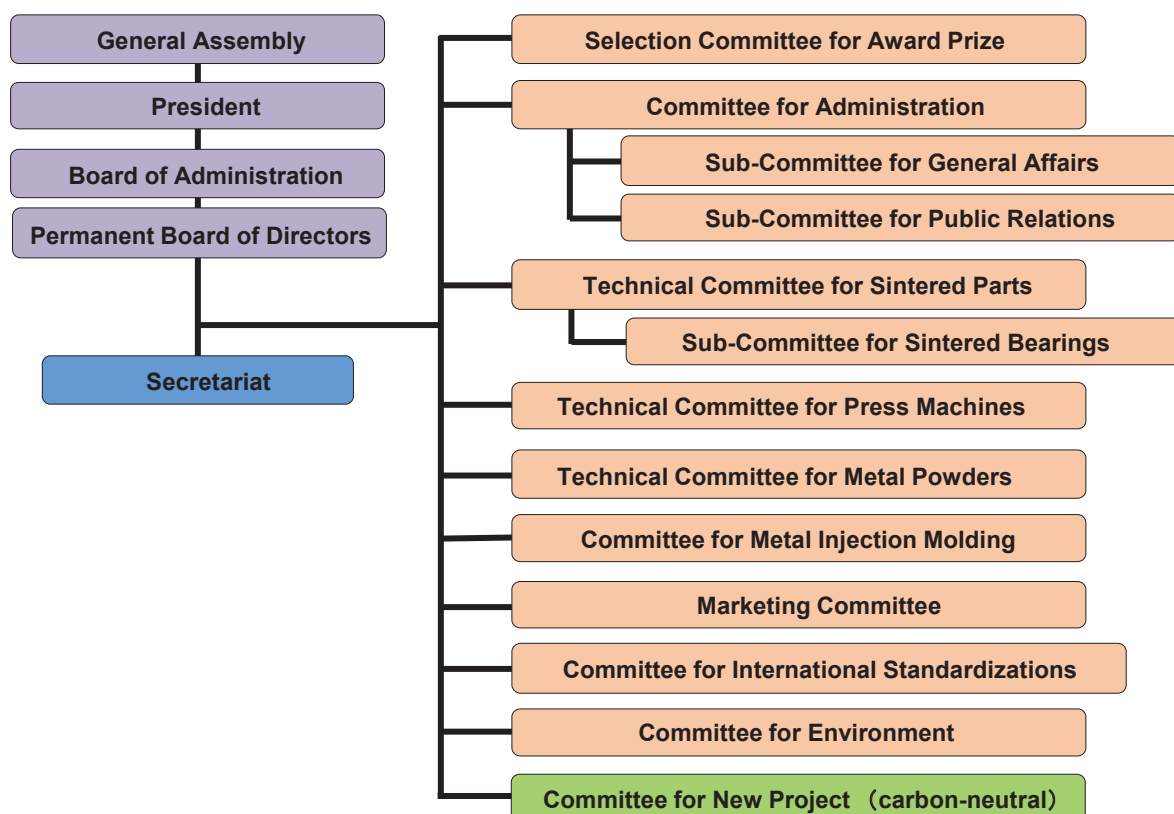
Compared to 2023, domestic production of automobiles (including buses and trucks), Japan's core industry, decreased 8.5% to 8.23 million units (Japan Automobile Manufacturers Association), and domestic sales decreased 7.5% to 4.42 million units, resulting in a decline in both domestic production and sales.

\*For statistical data on powder metallurgy production, please refer to page 9.

JPMA is a collaboration between member companies engaged in real manufacturing, and is vigorously promoting activities to further develop the powder metallurgy industry, such as promoting PM technology development, responding to carbon neutrality, and developing human resources, as well as collaborating with the global PM industry.

I would like to take this opportunity to express my sincere gratitude to all those involved in APMA, MPIF, and EPMA who have been cooperating with us on a daily basis. We ask for your continued support for JPMA's activities.

## Organization of JPMA



## Board Members

### President

☐ Mr. Shuzo Sonoda

President

FUKUDA METAL FOIL & POWDER CO., LTD.



### Executive Director

☐Mr. Yoshio Uetsuki

Japan Powder Metallurgy Association

### Permanent Board Members

☐Mr. Shintaro Inoue

Sumitomo Electric Industries, Ltd.

☐Mr. Hiroshi Ii

DIAMET CORPORATION

☐Mr. Toshiya Yamaguchi

FINE SINTER CO., LTD.

☐Mr. Masashi Kikuchi

PORITE CORPORATION

☐Mr. Satoshi Nimura

KOBE STEEL, LTD.

☐Mr. Shoei Katano

Höganäs Japan K.K.

### Board Members

☐Mr. Junichi Takahashi

IWAKI DIECAST Co., Ltd.

☐Mr. Tsuyoshi Takeda

NTN Advanced Materials Corporation

☐Mr. Takashi Suzuki

NAPAC CO., LTD.

☐Mr. Masayoshi Nishimura

FUKUI SINTER CO., LTD.

☐Mr. Shigeru Unami

JFE Steel Corporation

☐Mr. Ikuo Sugie

Daido Steel Co., Ltd.

☐Mr. Takayuki Yoshida

Dowa Electronics Materials Co., Ltd.

☐Mr. Jiro Bando

Nippon Atomized Metal Powders Corporation

### Auditor

☐Mr. Seiji Shimizu

NTN Advanced Materials Corporation

☐Mr. Norihiro Ogawa

Daido Steel Co., Ltd.

### JPMA Secretariat

☐Mr. Yusuke Watanuki (Deputy Secretary General)

General Assembly, Technical Committees, Events, Web, Publication

☐Ms. Tokie Sakamoto (Assistant section chief)

Accountant and General affairs

☐Ms. Naomi Enomoto (Staff)

Statistics, Events, General affairs

## Activities of Committees

### Selection Committee for Award Prize

Number of Committee Members: 14 persons

\*Selection Committee for JPMA Award



GRAND PRIX

Development of Soft Magnetic Composite Cores with Double Pole  
Shoes to Enhance the Performance of Axial Flux Motors  
SUMITOMO ELECTRIC INDUSTRIES, LTD.



**Chairman**  
**Mr. Satoshi Nimura**  
(KOBE STEEL, LTD.)  
New Chairman

### Committee for Administration

Number of Committee Members: 18 persons

#### Sub-Committee for General Affairs

Number of Committee Members: 8 persons



**Chairman:**  
**Mr. Koji Hashimoto**  
(PORITE CORPORATION)  
New Chairman

\*Planning and operating of "PM information Exchange Meeting" in March.

\*Publication of the report "Analysis of investigation results of sintered parts demand structure 2023" in June.

\*Edition of the Brochure "2023 JPMA Annual Report (English)" in May and "2023 JPMA Annual Report (Japanese)" in July.

\*Planning and operating of the PR meeting "JPMA Awards Special Session" at JSPM Spring in May.

\*Planning "Case Studies on Improving Production Efficiency" and JPMA Awards at Yokohama in October.

\*Progress confirmation of "New Project Committee".

### Sub-Committee for Public Relations

Number of Committee Members: 8 persons



**Chairman:**  
**Mr. Toshitaka Masumoto**  
(FUKUDA METAL  
FOIL & POWDER CO., LTD.)  
New Chairman

\*Planning and operating of "12th Human resources development seminar" in July.

\*Publication of JPMA News "Funmatsu Yakin" (No417-420).

\*Planning and operating of "3rd PM Education Basic Course" in September.

\*Planning and operating of WORLD PM2024 PR.

\*Cooperation with CO<sub>2</sub> emissions exploration. (Carbon-neutral)

### Technical Committee for Sintered Parts

Number of Committee Members: 8 persons



**Chairman**  
**Mr. Toshihiko Mouri**  
(NTN Advanced Materials  
Corporation)  
**New Chairman**

- \*Discussion of the matter for ISO/TC119, SC3 and SC5.
- \*Presentation of Measurement of surface roughness at WORLD PM2024.
- \*Presentation of the ideal sintering factory to achieve carbon neutrality in 2050 at WORLD PM2024. (Carbon-neutral and Electrification)

### Sub-Committee for Sintered Bearings

Number of Committee Members: 3 persons



**Chairman**  
**Mr. Shinobu Aso**  
(PORITE CORPORATION)  
**New Chairman**

- \*Deliberation of standardization of the full filling rate.
- \*Website Update for application example of Sintered Bearings.
- \*Deliberation of Website Update for electrification example of Sintered Bearings. (Electrification)

### Technical Committee for Press Machines

Number of Committee Members: 5 persons



**Chairman**  
**Mr. Shigehisa Miyagawa**  
(MITSUBISHI MATERIALS  
TECHNO CORPORATION)  
**New Chairman**

- \*Exchange on Information for defect cases of Press.
- \*Introduction for function of Press Machines
- \*Exchange on Information for newfangled Press Machines.
- \*Deliberation of Energy saving of Press Machines. (Carbon-neutral)

### Technical Committee for Metal Powders

Number of Committee Members: 13 persons



**Chairman**  
**Dr. Yoichiro Shinpo**  
(FUKUDA METAL  
FOIL & POWDER CO., LTD.)  
**New Chairman**

- \*Discussion of matters for ISO/TC119, SC2 and SC5.
- \*Presentation of filling property for Metal powders
- \*Raw powder promotion through WORLD PM2024 Exhibition.
- \*Introduction of carbon neutral activity from member companies. (Carbon-neutral)



## Committee for Metal Injection Molding

Number of Committee Members: 14 persons



**Chairman**  
**Mr. Hirofumi Terada**  
(Hamamatsu Metal  
Works Co., Ltd.)  
**New Chairman**

- \*Investigation of the Japanese MIM market.
- \*Planning and operating of "MIM joint exhibition at WORLD PM2024". (Electrification)
- \*Planning and operating of "1st MIM Seminar – Intermediate level".
- \*Support of WORLD PM2024 MIM SIS presentation. (Carbon-neutral)

## Marketing Committee

Number of Committee Members: 13 persons



**Chairman**  
**Mr. Susumu Kameda**  
(PORITE CORPORATION)  
**New Chairman**

- \*Collecting information from other industries and investigating PM alternatives. (Electrification)

## Committee for International Standardizations

Number of Committee Members: 6 persons



**Chairman**  
**Mr. Yuji Maeda**  
(FINE SINTER CO., LTD.)  
**Commission from 2022**

- \*Planning and operating of 2024 ISO/TC119 Meeting at Yokohama
- \*Attendance of 2024 ISO/TC119 Meeting at Yokohama
- \*Discussion of related matters for TC119, SC2, SC3 and SC5.
- \*Discussion on how to use GPMD.

## Committee for Environment

Number of Committee Members: 4 persons



**Chairman**  
**Mr. Kazushige Nasu**  
(PORITE CORPORATION)  
**New Chairman**

- \*Investigation of 2023 follow-up survey for "Voluntary Action Plan for Environment of PM Industry".
- \*Introduction of Case Studies of "CO<sub>2</sub> Emissions Reduction", "Waste Product Reduction" and "KANKYO HIYARI".
- \*Selection of the "Environment Awards".
- \*Introduction of carbon neutral activity from member companies. (Carbon-neutral)

## Events and International Communications

### 19, January

Gathering of 2024 New Year Greeting and Ceremony of Awarding Various Honors in 2023.

### 6, March

1st MIM Seminar – Intermediate level.

### 15, March

The 19th PM Information Exchange Meeting.

### 21-23, May

JPMA Special Session at the JSPM Spring Meeting.

### 24, May

2024 JPMA General Assembly.

The 2024 Activity Plans and Budget of JPMA.

### 5, July

12th Human resources development seminar.

### 1, August

Tour of Committee for Administration.

AMADA GLOBAL INNOVATION CENTER

### 9-11, October

ISO/TC119/2024 Meeting at Yokohama, Japan

4 representatives of JPMA took part in this meeting for

ISO/TC119, SC2, SC3 and SC5

Support of 3 persons (Committee for International Standardizations and JPMA Secretariat)

### 13-17, October

2024 Powder Metallurgy World Congress & Exhibition

### 15, October

17th APMA Board Meeting.

MPIF / EPMA / APMA Meeting

### 21, November

2024 JPMA Fall General Assembly.

Announcement of 2024 JPMA Awards.

## JPMA Publications

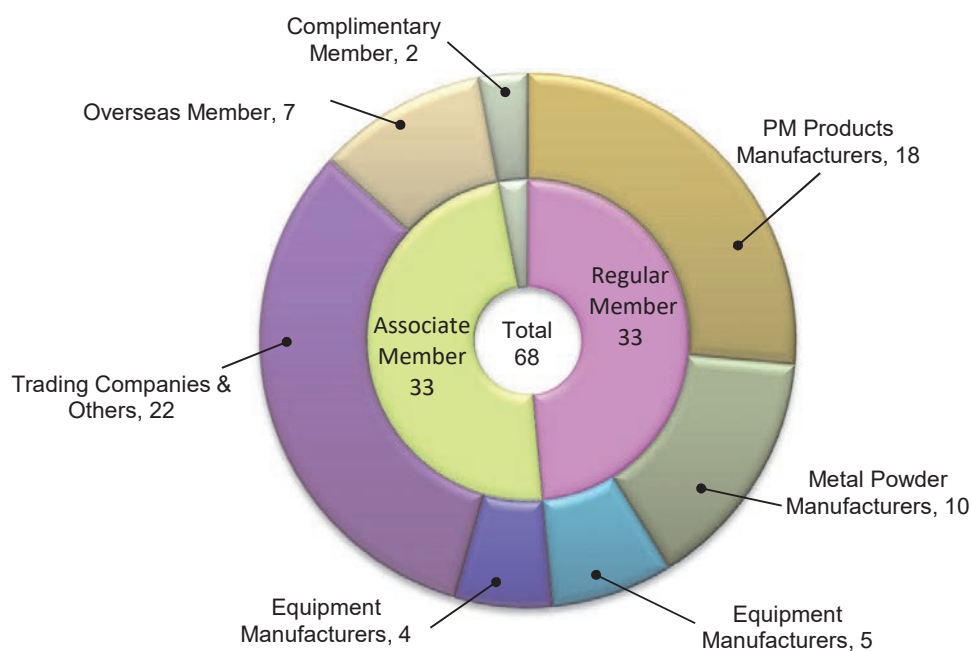
The 45th Investigation Collection Results of Sintered Parts Demand Structure.

JPMA Report, 2023 (English and Japanese).

JPMA News “Funmatsu Yakin” (No417-420).



## JPMA Membership



## 2024 New Members

### Associate Member

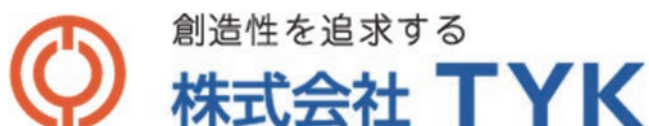
OSTERWALDER JAPAN



TOHO TITANIUM CO., LTD.



TYK CORPORATION



## Statistics of Japan

### Production of PM Products in Japan

Fig.1 shows the production volume change of Machine Parts and Bearings for the period from 2015 through 2024.

In 2024, Machine Parts volume was 61,225 ton, 9.9% decrease from the previous year. Bearings volume was 4,053 ton, 9.5% decrease from the previous year.

As the other products, Friction Materials volume was 736 ton, 7.5% decrease from the previous year. Electric Contacts volume was 52 ton, 26.8% decrease from the previous year.

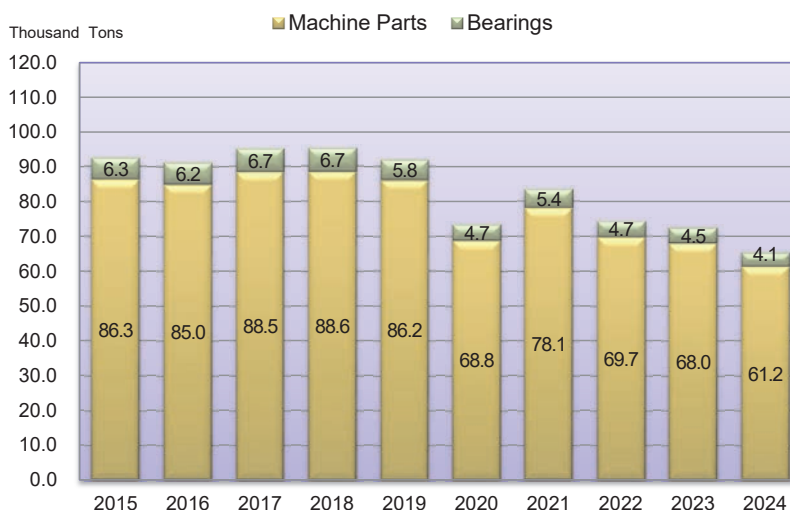


Fig.1 Production of Machine Parts and Bearings (Calendar Year) (Source: METI)

### Machine Parts, Bearings and MIM Parts

Fig.2 shows the breakdown of demand for Machine Parts and Bearings for the period from 2015 through 2024.

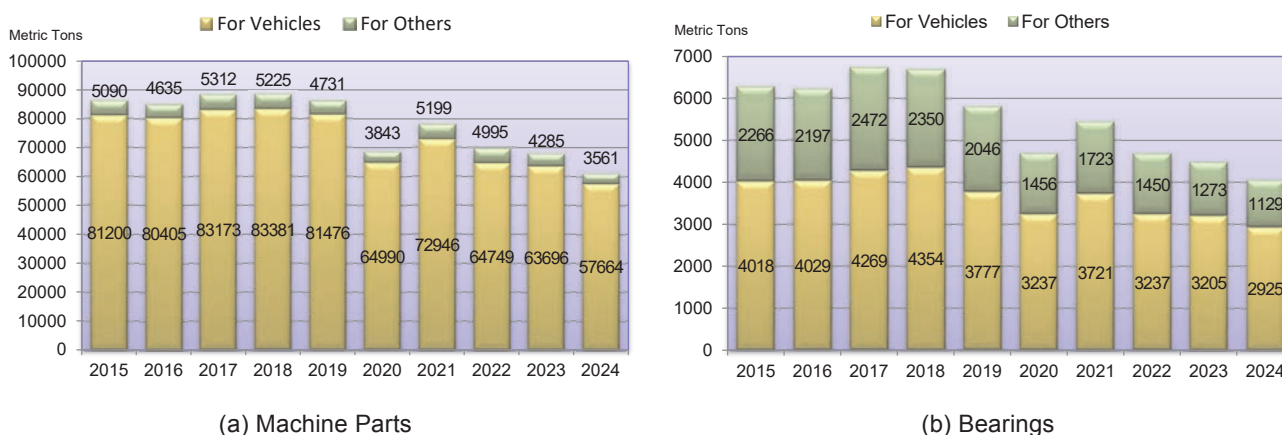


Fig.2 Breakdown of Demand for Machine Parts and Bearings (Calendar Year) (Source: METI)

In 2024, Machine Parts production volume for Vehicles was 57,664 ton, 9.5% decrease from the previous year. The production volume remained at the same level as the same months of last year from January to May, but in June the production numbers began to decline due to the issue of certification fraud in the vehicle industry, and production volume for the year fell by more than 10%. Furthermore, sales of parts for export also decreased due to sluggish overseas demand.

For industrial and electric machines, although Machine Parts production volume trends differed depending on the demand destination, overall production volume decreased due to sluggish overseas demand and inventory adjustments.

The production volume of Bearings for Vehicles was 2,925 ton, 8.7% decrease from the previous year.

On the overall demand for bearings, the demand for engine parts in the transportation industry decreased due to the shift to electrification, while that for industrial machinery decreased due to inventory adjustments and end of production. On the other hand, the demand for electrical machinery decreased in the first half due to sluggish overseas markets, but increased in the second half due to a recovery in markets.

Regarding MIM Parts, although the production volume decreased for overall MIM due to inventory adjustments caused by the economic downturn in emerging countries and the effects of the earthquake, the demand for some products such as bicycle and tool parts increased, and we can expect further expansion in the future.

Fig.3 shows the use breakdown of Machine Parts and Bearings in vehicle in 2023 based on the demand structure survey by JPMA.

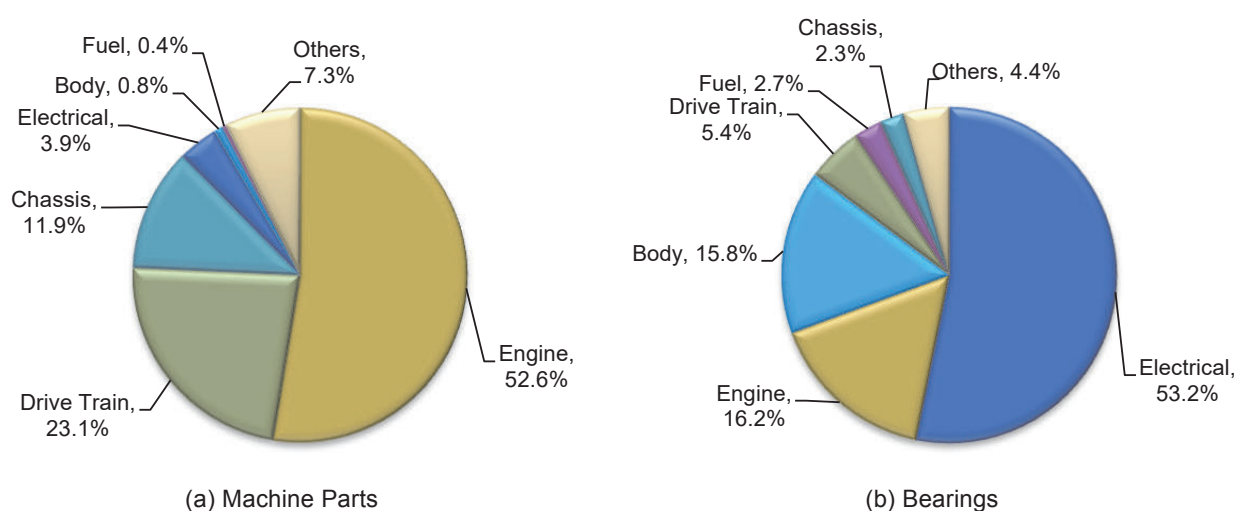


Fig.3 Breakdown of Machine Parts and Bearings for Vehicle (2023) (Source: JPMA)

Fig.4 shows the weight of sintered parts calculated for one car and the vehicle production in Japan for the period from 2014 through 2023.

The weight of sintered parts calculated for one car in 2023 was 7.3kg in Japan, 15.9kg in U.S. and 8.6kg in Europe.

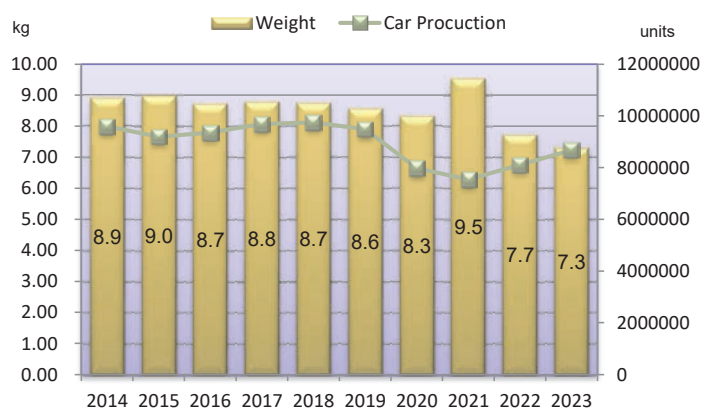


Fig.4 Weight for sintered parts calculated for one car (Source JPMA and JAMA)

## Production of PM Powders in Japan

Fig.5 shows the Shipment of Iron and Copper Powders for the period from 2020 through 2024, and Shipment of Other Powders for the period from 2019 through 2023.

Along with a decrease in the demand for Machine Parts, that for Iron Powders was decreased similarly. On the other hand, copper powder shipment turned to growth from the previous year, with exports in particular increasing by 18.5%.

In addition, one domestic copper powder manufacturer has withdrawn from the business, and it is expected that alternative products will be sourced from overseas in the future, so it will be necessary to keep a close eye on future production trends.

MIM Powders may be adopted for AM applications in the future. It has been decided that a project to create demand for the BJT method will be promoted in collaboration with industry, government and academia from 2025, and the future growth is expected.

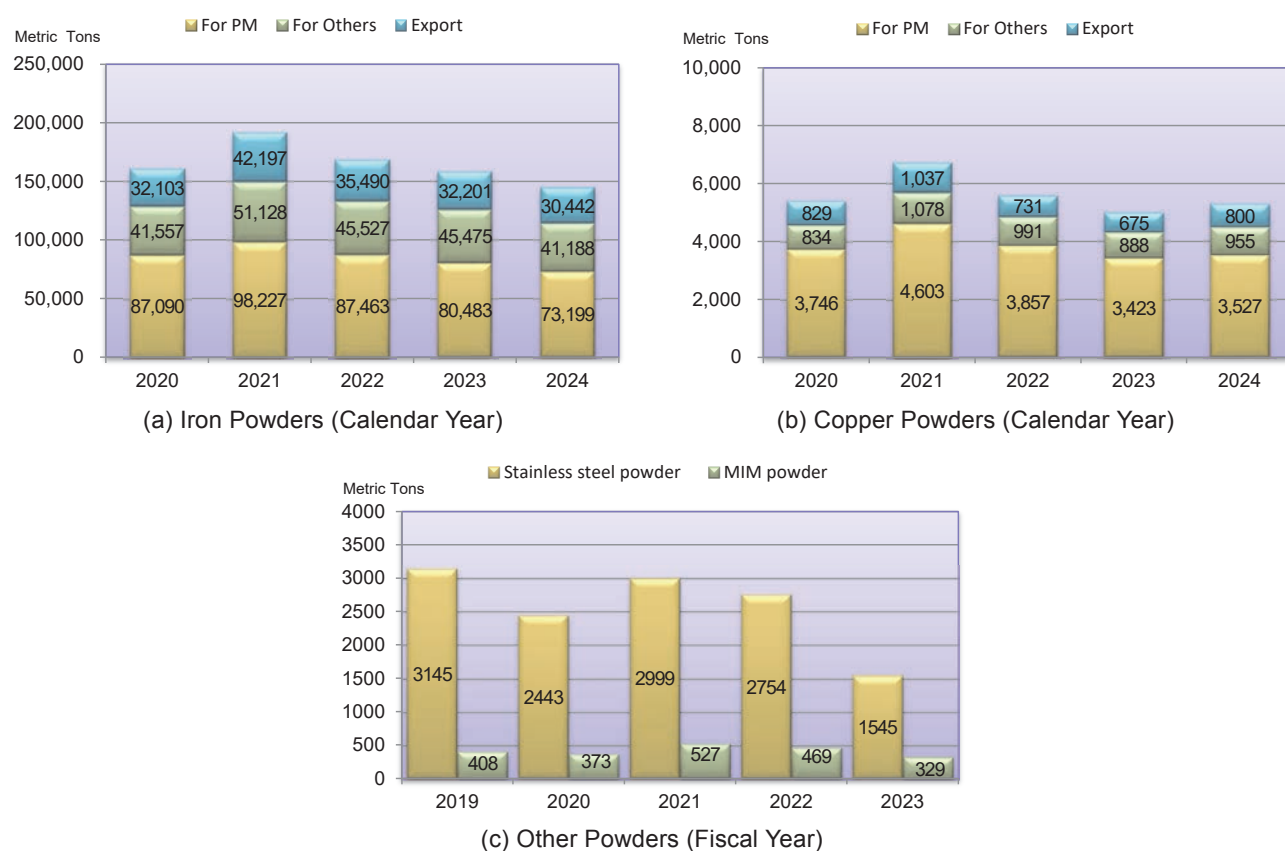


Fig.5 Shipment of Metal Powders (Source JPMA)

## JPMA Awards

### Personal Prize

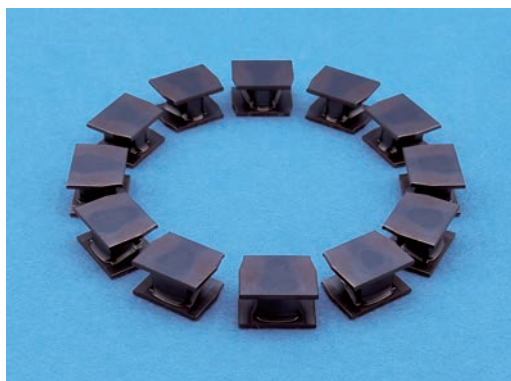
Mr. Hideshi Miura  
KYUSHU UNIVERSITY

2007-2024  
Councilor, Adviser



### Grand Prix

Development of Soft Magnetic Composite Cores with Double Pole Shoes to Enhance the Performance of Axial Flux Motors.



SUMITOMO ELECTRIC INDUSTRIES, LTD.

### Development Prize

#### New Design

Sintered bushings that realize high performance electric solenoid valves



DIAMET CORPORATION

Vane Pump Side Plate Development with Molded Body Processing

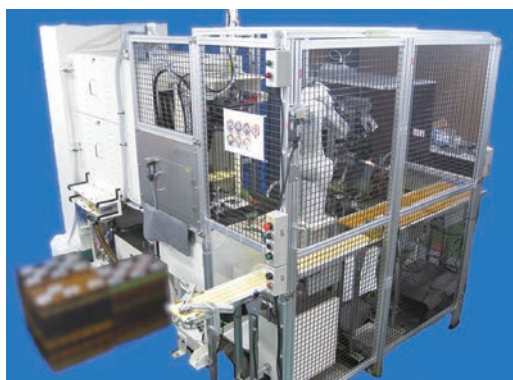


FINE SINTER CO., LTD.



## Process Development

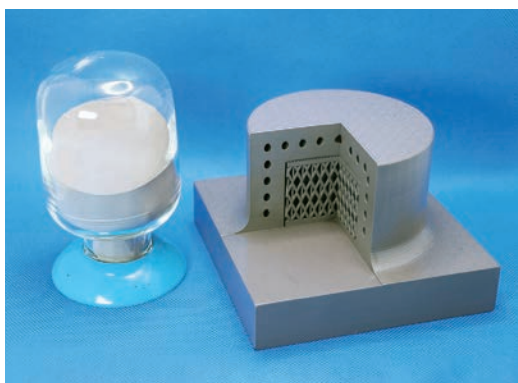
Full automatic system development on magnetic particle inspection method for induction hardened products



DIAMET CORPORATION

## New Powders

Die steel powder with high printability for 3D-printing



Daido Steel Co., Ltd.

High density iron-based mixed powder with improved flowability



KOBE STEEL, LTD.

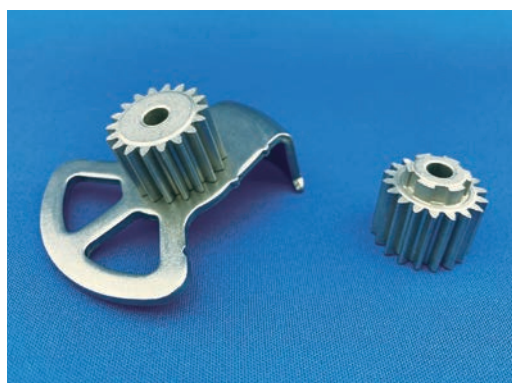
## Effort Prize

Development of ECU Cooling Fan Bearings for ADAS



Porite Corporation

Sintered Actuator Components from the Development of Pressed Component Caulking Technology



FINE SINTER CO., LTD.



## Prize for Distinguished Service of the Committee Activities

Mr. Keichi Uemoto

SUMITOMO ELECTRIC INDUSTRIES, LTD.

2004-2010, 2016-2023

Member of Committee for Metal Powders

Member of Committee for International Standardizations



Mr. Kazunori Hattori

SUMITOMO ELECTRIC INDUSTRIES, LTD.

2011-2024

Chairman and member of Committee for Environment

Member of Committee for New Project



Mr. Yasushi Mori

Nippon Atomized Metal Powders Corporation

1995-1996, 2004-2024

Member of Committee for Administration

Member of Selection Committee for Award Prize

Member of Steering Committee for PM2024



Mr. Junitiro Muto

KOHTAKI PRECISION MACHINE CO., LTD.

2001-2023

Chairman and member of Committee for Press Machines

Member of Committee for International Standardizations

Member of Committee for New Project



## Recognition of Superior Employees

2024 prizewinner numbered 12 persons

(9 member companies)

## Environment Prize

Reduction of CO<sub>2</sub> basic unit

FINE SINTER Co., LTD.

Kasugai Plant



Reduction for total waste basic unit

DIAMET CORPORATION

Headquarters and Niigata Office



## WORLD PM2024 YOKOHAMA Review

Powder Metallurgy World Congress & Exhibition in 2024 was held from October 13<sup>th</sup> through 17<sup>th</sup> at Pacifico-Yokohama by the sponsorship of JSPM and JPMA. The world congress in Japan was 4<sup>th</sup> time. WORLD PM2024 was 12 years since the last time, and there were many negative factors leading up to this congress, such as global economic instability and conflicts. But this congress was held under the success.

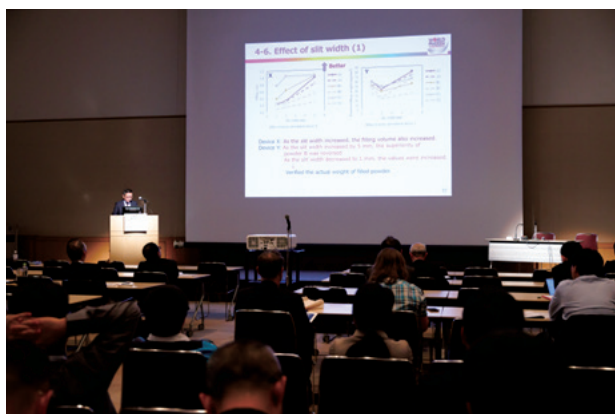
Total attendees were 830 from all over the world. In that, the attendees of Congress were 768 and the companions were 62. The Congress attendees from foreign countries were 376, in that 224 from Asia, 116 from Europe, 27 from North America and 9 from other area. The attendees from Japan were 392. Persons in charge for exhibition were 655 and visitors only for the exhibition were 898. Total attendees were about 2400.



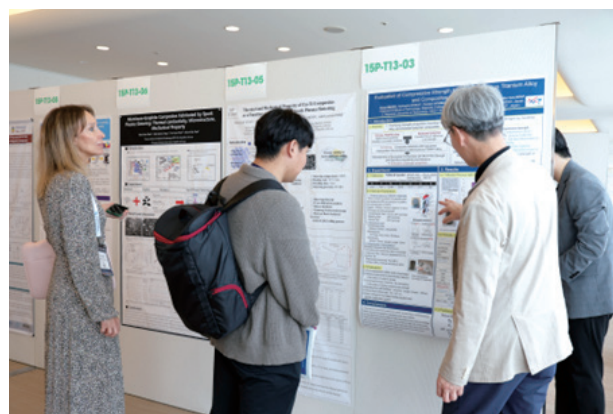
Pacifico YOKOHAMA of Congress Venue



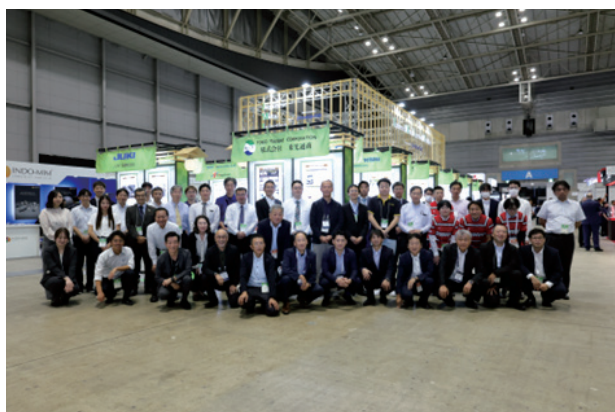
Opening Ceremony participants more than 400



Oral Session (258)



Poster Session (61)



Exhibition (138 booths)



JPMA Special Seminar at Exhibition Place

## PM Production in Asia

PM Production (Source JPMA, PMAI, KPMI, TPMA and CMPMA)

(Metric Tons)

AREA		2022	2023	2024	24/23(%)
Japan	Iron-base	72,363	70,311	63,292	90.0
	Copper-base	2,068	2,165	1,986	91.7
	Total	74,431	72,476	65,278	90.1
China	Iron-base	163,923	174,961	200,391	114.5
	Copper-base	12,580	14,665	18,788	128.1
	Total	176,503	189,626	219,179	115.6
Korea	*Iron-base	64,820	70,012	65,834	94.0
	Copper-base	566	580	694	119.7
	Total	65,386	70,592	66,528	94.2
Taiwan	Iron-base	26,000	19,000	21,500	113.2
	Copper-base	1,000	1,000	1,020	102.0
	Total	27,000	20,000	22,520	112.6
India	Iron-base	45,000	49,000	56,000	114.3
	Copper-base	12,000	13,000	13,500	103.8
	Total	57,000	62,000	69,500	112.1
Malaysia	Iron-base	3,342	2,899	2,816	97.1
	Copper-base	151	174	213	122.4
	Total	3,493	3,073	3,029	98.6
Thailand	Iron-base	14,208	13,411	13,263	98.9
	Copper-base	41	40	41	102.5
	Total	14,249	13,451	13,304	98.9
Indonesia	Iron-base	5,825	5,584	5,299	94.9
	Copper-base	0	0	0	—
	Total	5,825	5,584	5,299	94.9
Other areas	Iron-base	1,077	922	1,127	122.2
	Copper-base	214	170	166	97.6
	Total	1,291	1,092	1,293	118.4
Total	Iron-base	396,558	406,100	429,522	105.8
	Copper-base	28,620	31,794	36,408	114.5
	Total	425,178	437,894	465,930	106.4

\*Included "Others"