

APMA2011 Forum

2011. 10. 31, Jeju, Korea

Recent Powder Metallurgy Activities in Korea

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Korean Powder Metallurgy Institute

KPMI 한국분말야금학회



Content

I. State of PM in Korea

- History and Market
- PM Industries

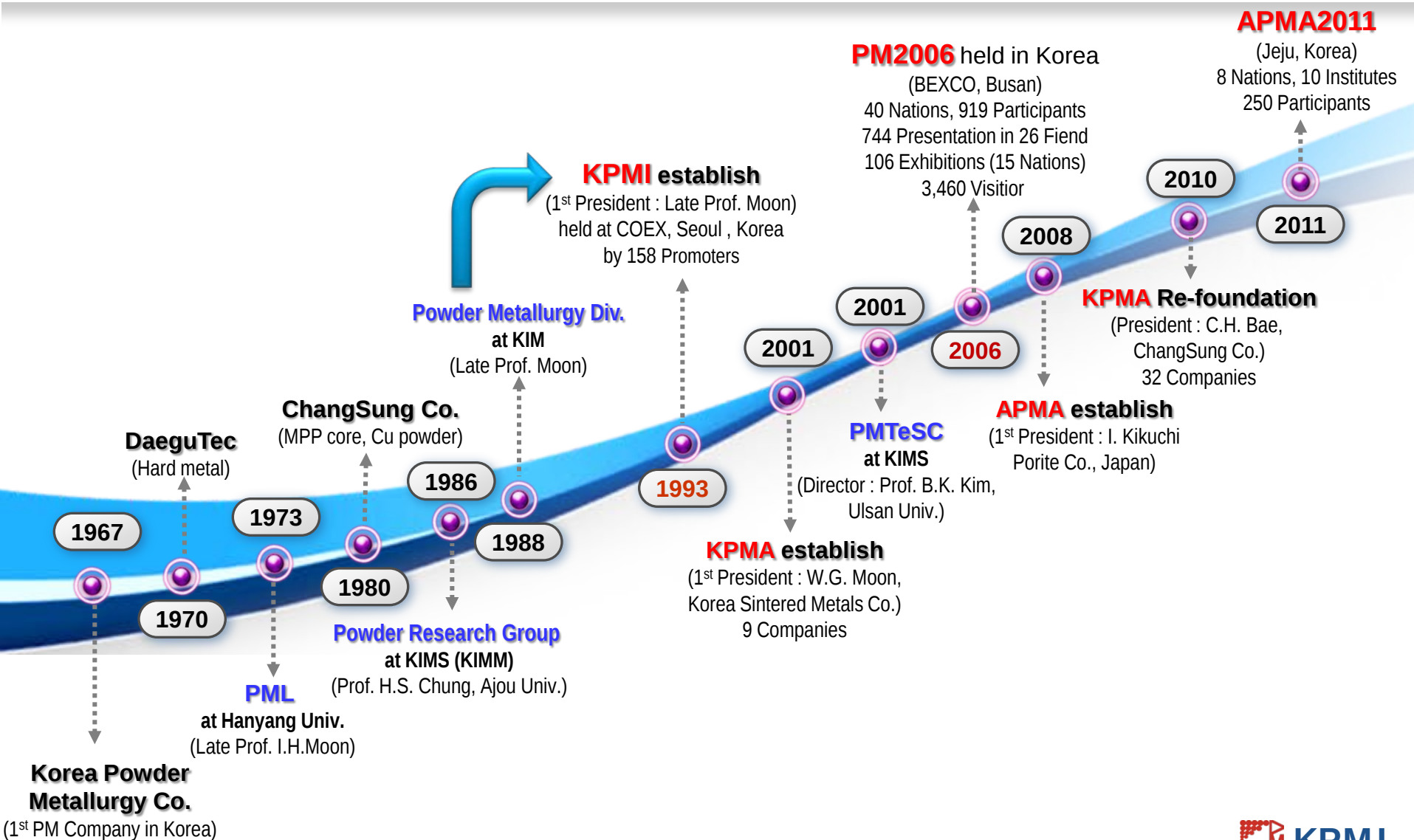
II. Korea Powder Metallurgy Institute (KPMI)

- Organization & Member
- Activities of KPMI

III. Future Vision

IV. ISNNM2012

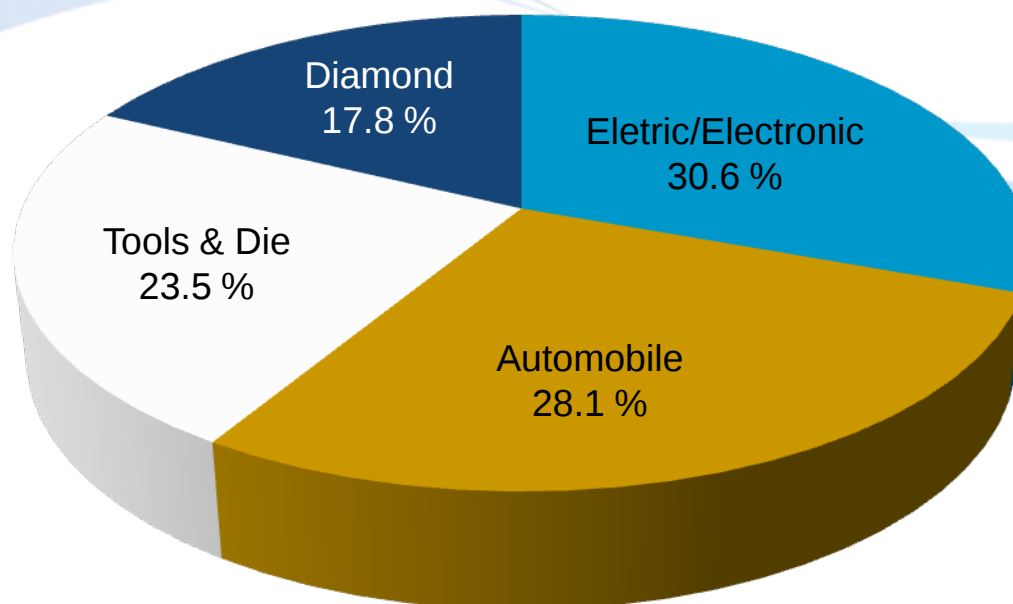
History





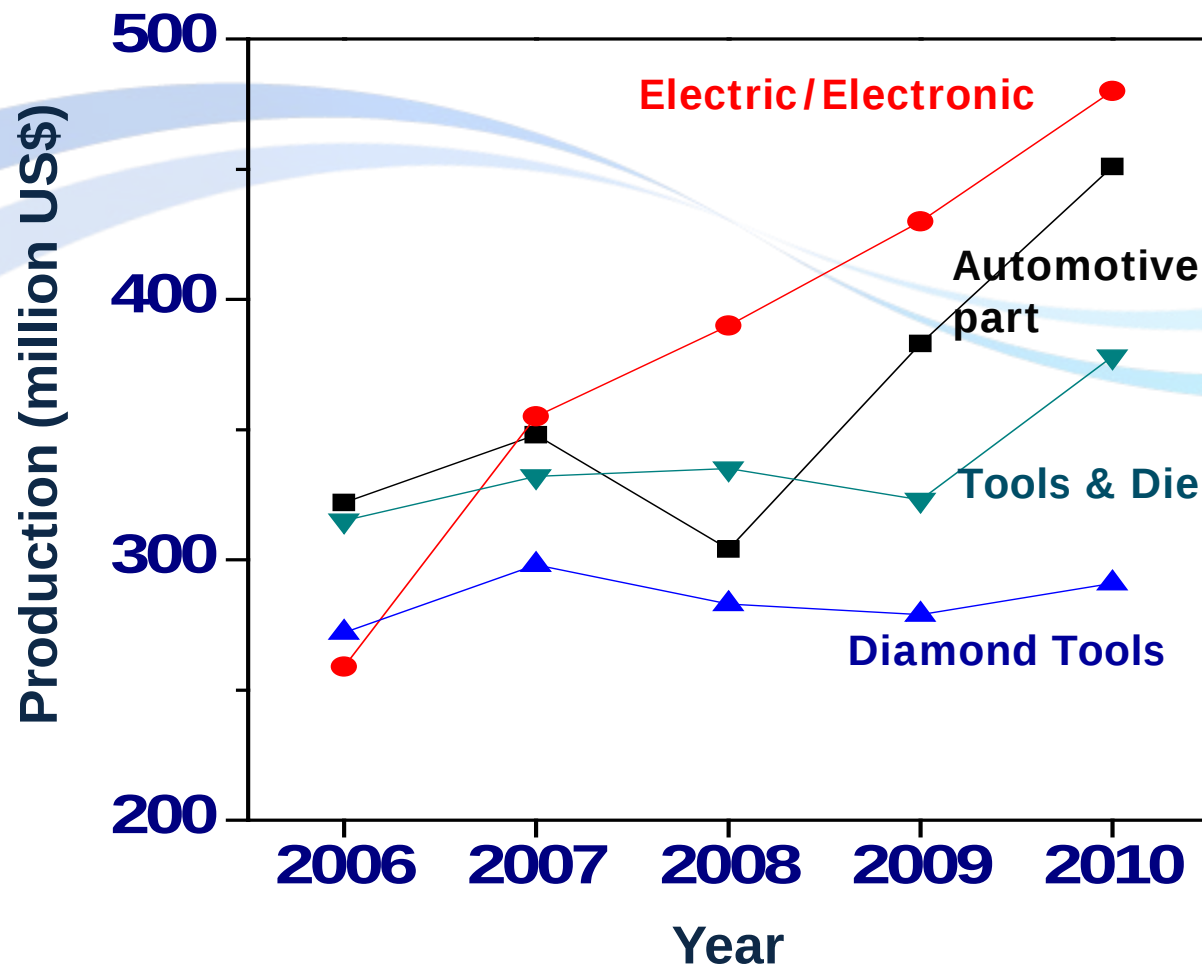
PM Market Share in Korea

Total Market : 1,585 Million US\$ (2010)





PM Market in Korea





Major PM Producers in Korea(1)

	Production items	Homepage
Metal Powder*  Chang Sung Corporation Changsung Co.	Metallic Powders ; Non-ferrous, ferrous powders ; Magnetic Metal Fillers	changsung.com
Structural Parts  대한소결금속 Korea Sintered Metal Korea Sintered Metal. Co.	Sintered Parts ; Automotive, Electric parts	iksm.co.kr
 Saeron Automotive	Sintered Structural Parts ; Automotive parts& Home Appliance parts	saeronauto.co.kr
Glosco Limited International Trading Company GLOSCO Ltd.	Automotive Parts ; Body, Engine, Pump parts	glosco.com
 Korea Powder Metallurgy	Sintered Structural Parts ; Automotive, Electric parts	korpm.co.kr
 Kaya AMA	Sintered Structural Parts Metal Sulfide Powder	kayaama.com



Major PM Producers in Korea(2)

Equipment

Production items

Homepage



KMTEC

Equipment

; Press
; Sintering Furnace, Steam Furnace

km-tec.co.kr



Dae Wha Press Co.Ltd

Equipment

; Press (up to 250 ton)

daewha.co.kr



YS-Thermtech Co.Ltd

Equipment

; Press
; Sintering Furnace, Steam Furnace

ysfurnace.co.kr

MIM



Bestner Inc.

MIM Parts

; Automotive, Computer,
Textile Parts

bestner.com



PIM Korea Co.Ltd

MIM Parts

; Mobilephone, Computer,
Automotive Parts

pimkorea.com



Major PM Producers in Korea(3)

Cemented Carbides



Production items

**Hard metal tools and rolls
WC powder**

Homepage

taegutec.co.kr



Carbide Cutting tools
; Inserts Tools, Drill, Endmill

korloy.com

Diamonds Tools



Diamond tools
; Diamond cutter, bite, wheel

ehwadia.co.kr



Diamond tools
; Diamond cutter, wheel, wire

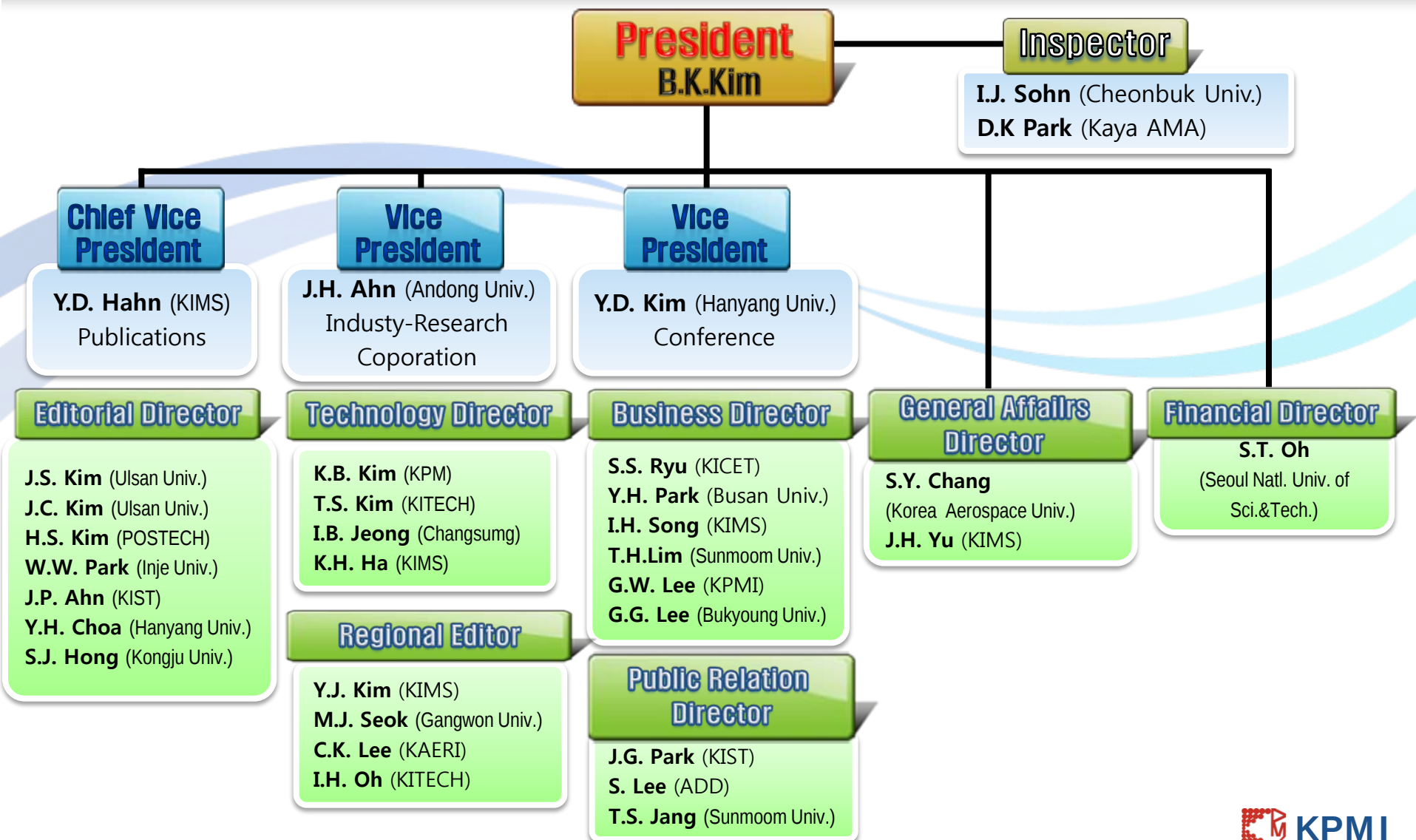
shinhandia.co.kr

Major Iron/Steel Powder suppliers:





Organization Structure of KPMI





KPMI

(Korean Powder Metallurgy Institute)

Founded in 1993

Members

- @ 1069 Individuals
- @ 35 Organization
- @ 55 Companies

Publications

- @ 6 issues of the Journal of KPMI (Bi-monthly)

Meetings

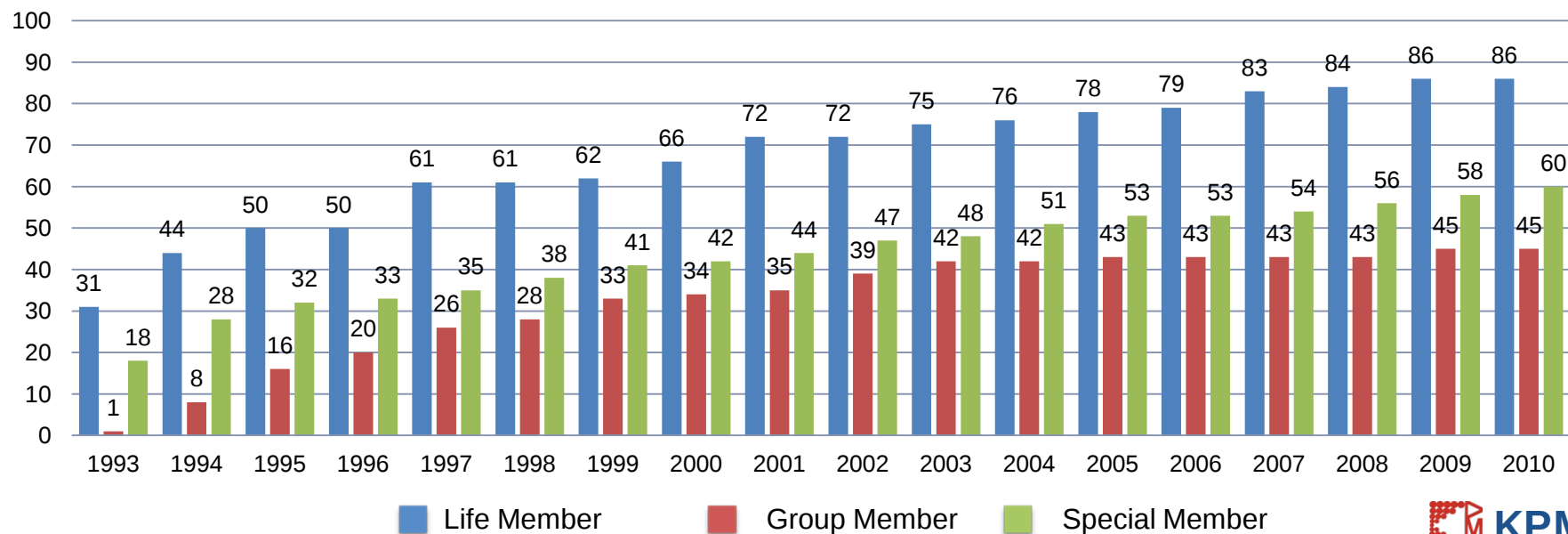
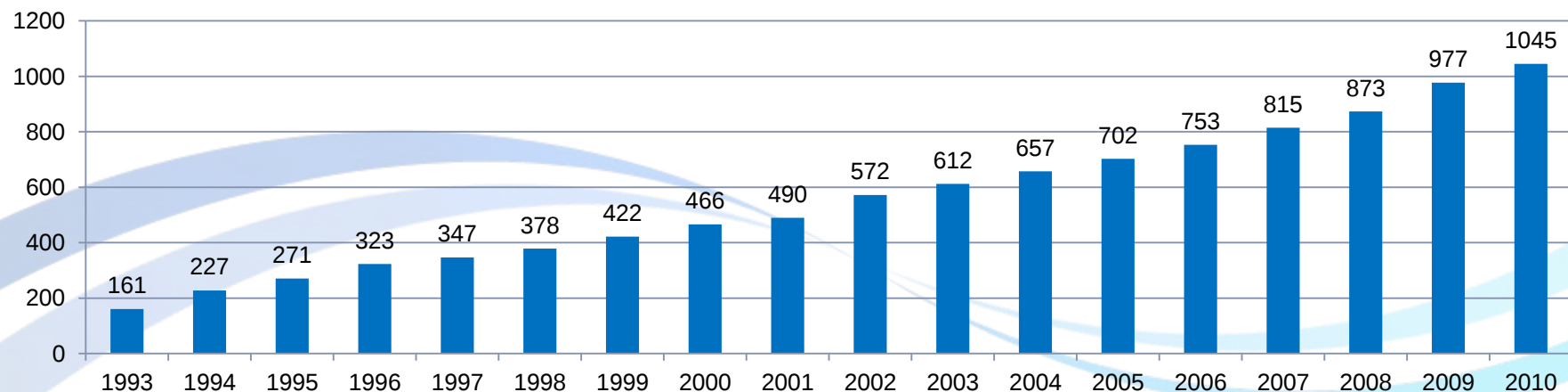
- @ Twice a year, Spring & Autumn

PM Short Courses

- @ Twice a year for PM industry



Members of KPMI





Publications

• 6 issues a year (bi-monthly)

• Research fields

Materials and Components

Tools & Hard Metals

Mechanics & Automobile

Bio Materials & Devices

Energy & Environment

Electrics & Electronics

Theory and Process

Microstructure & Properties

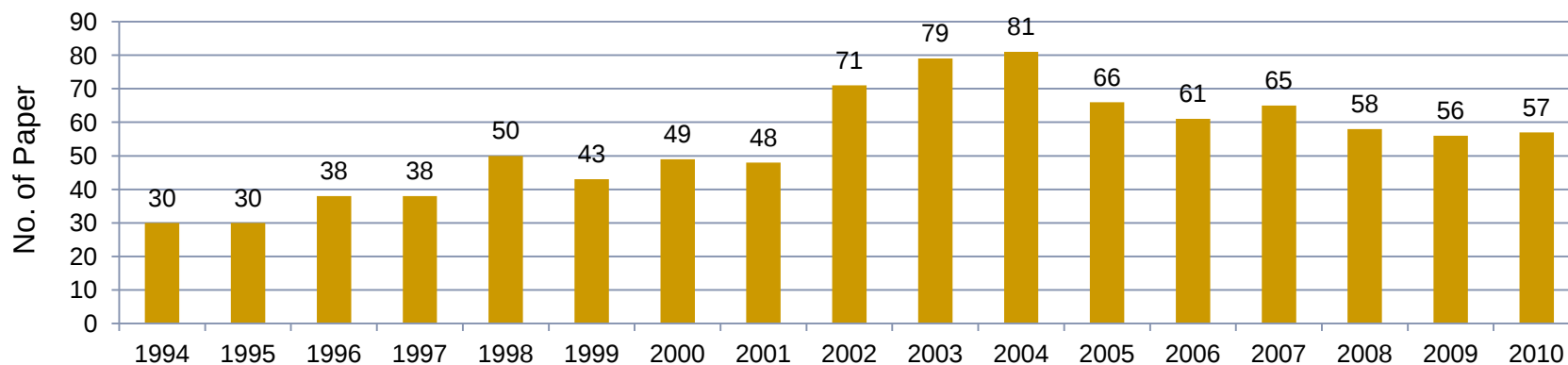
Compaction & Sintering

Basic Theory of PM

Powder Synthesis

Powder Injection Molding

Nanostructured Materials



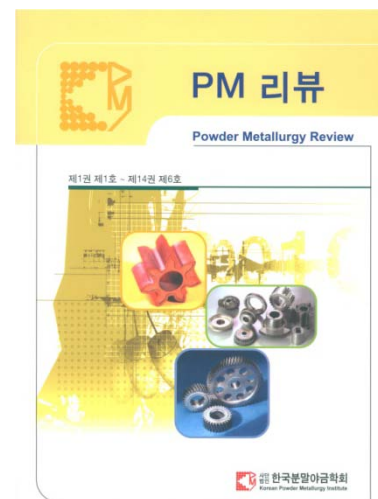
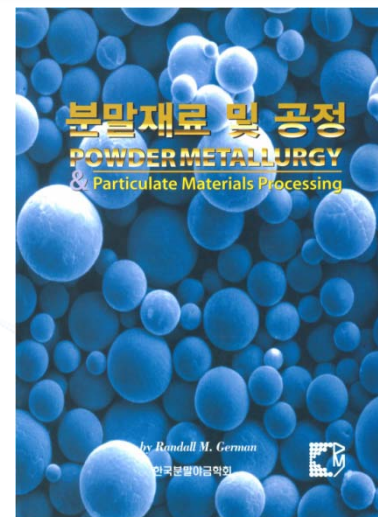
Publications

Books

- **Powder Metallurgy & Particulate Materials Processing (Korean Ver.)**
 - by Randall M. German
 - 28 Feb. 2010
 - Printed by Hallimwon

Letters & Reviews

- **Powder Metallurgy Review**
 - Vol.1 – Vol. 14 (1994 – 2007)
- **Technical Views**
 - Vol.1 – Vol. 14 (1994 – 2007)
- **PM Letters**
 - Twice a year





KPMI Meetings

Regular Conferences

- **Twice a year (Spring and Autumn)**
 - 60 Oral and 120 Poster presentations
 - 1 or 2 Symposiums and 5 Exhibitions
 - 150 - 200 participants



Symposium & Workshops

- **Once or twice a year**
 - Symposium on Future Powder Materials**
 - 25 Feb. 2011
 - L Tower, Seoul



International Conference

- **Sintering 2011**
 - 28 Aug. – 2 Sep. 2011
 - Shilla Hotel, Jeju, Korea
- **ISNNM2010**
 - 2 – 5 Dec. 2010
 - Kolon Hotel, Gyeongju, Korea



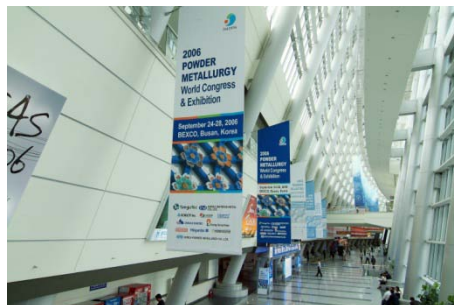


KPMI Meetings

PM 2006

(2006 Powder Metallurgy World Congress & Exhibition)

- 24 – 28 September 2006, BEXCO, Busan, Korea
- 919 Participants from 40 Nations
- 744 Presentation in 26 special Research Fields
- 106 Exhibitions from 15 Nations
- Total Visitor : 3,460





Academic Business

Special Study Group

Motivations

- ◉ Searching new research filed corresponding to change of PM industry
- ◉ Technology exchange between industrial field
- ◉ Accommodation of current trend in PM industry
- ◉ Overcoming the limitation in PM industrial structure
- ◉ Strengthening the competitiveness of small enterprises in PM
 - ➡ **Study Group for High performance rare earth permanent magnet**
 - ➡ **Study Group for Nanosized Hard Metals and Their Recycling**
 - ➡ **Study Group for Multi-functional Porous Metals and Materials**

Revitalization of Future PM Industrial Field



Technical Business

PM Short Course

Motivations

- Need a professional training course for employers of small sized PM industries
- Re-training of PM technicians
- Systemic knowledge and technique
- Exchanging of information and technology

Object

- Beginner technician in PM industry
- Graduate student and researchers
- Employers of PM associated industry
- One need to understand PM technooogy

Contents

- 1~2 a year (after 2005)
- Participants : 50~100
- Class : Beginner & Medium
- ~10 Lectures
- Sponsorship : Korea Tools Industry Cooperative





Industrial Business

Mentoring

Motivation

- Connection between specialist and Industries
- Tailored technical support to industry
- Whole responsible mentoring

목표

- Technique/employ/management support
⇒ promoting industrial tech. power
- Information and technique exchange
- Development of new technology

Contents

- Development of new item, process improvement, breakthrough the bottleneck in industrial field
- Support the test & analysis, information of current technology, management consult
- Industry – Research cooperations

Company	Support	Mentor
NanoTech.	Classification of Nanopowder & compaction	Dr. H.S. Hong (IAE)
Taekwang Sintered Metals	Microstructure and new process tech.	Prof. J.C. Kim (Ulsan Univ.)
Daehan Sintered Metals	High density compaction, sintering, treatment	Dr. Y.J. Kim (KIMS)
KBM Co.	Recycling of Rare metals (W, Mo, Ni)	Dr. G.H. Ha (KIMS)
Halla Stackpole	Sintered parts for HEV	Prof. T.H. Lim (Sunmoon Univ.)



Future Vision of KPMI

I International Journal

- Quality control of papers
- Need 3 – 5 year preparation
- Connect with materials concerned institutes

II International Activity

- APMA 2011
(Lotte Hotel, Jeju, Korea, 30 Oct. – 2 Nov. 2011)
- ISSNMM2012
(26 – 30 Aug. 2012, Istanbul, Turkey)





ISNNM 2012

ISNNM 2012

(International Symposium on Novel and Nano Materials)

- Supervisor : KPMI & ITU(Istanbul Technical University)
- Istanbul, Turkey
- Aug. 26 – 30, 2012



Thank You !