

Permanent Magnets 2010-2020

By

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A professionally bound book designed to be a resource for every sector of the Global Permanent Magnet Industry including producers, users, fabricators & distributors and industry suppliers. It is a "must have" for anyone seeking to understand today's dynamics and planning for success in the ever-expanding Global Permanent Magnet Industry.

The authors have a combined experience in the Permanent Magnet Industry totaling nearly 100 years. Each author compliments the others, bringing a unique skill set and extensive experience in their individual area of expertise. This yields a first of its kind, comprehensive reference and resource.

Permanent Magnets 2010-2020 includes 400 pages of useful data and information that will be essential for anyone involved in the Global Permanent Magnet Industry. It will be a valuable resource for:

- *Strategic planning*
- *Researching acquisitions, investments or divestments*
- *Improving your overall "Magnet IQ"*
- *Establishing or assuring a reliable magnet supply chain*
- *Supplying goods and services to the industry*

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About the Authors



Walter T. Benecki -- Walt graduated from the Penn State University in 1962 with B.S. and M.S. Degrees in Ceramic Engineering. He began his career with RCA as a Development Engineer prior to earning an M.B.A. from the University of Pittsburgh in 1965. For the next twenty-four years, Walt held a variety of strategic planning, marketing, new product development and general management responsibilities with Carborundum, General Electric and Copperweld.

In 1989, Walt was named President of Arnold Engineering (now Arnold Magnetic Technologies). By 2000, Arnold grew to become a profitable worldwide enterprise with sales of \$140 million. Arnold was one of the first companies in the magnetics industry to establish Chinese alliances and commit to manufacturing in mainland China.

Walt was President of MMPA from 1994-1997. Since 2001, Walt heads a consulting practice serving the worldwide magnetics industry.

He is currently a member of the board of directors of SMMA, EMERF and Bunting Magnetics Company. Over the past twenty years, Walt has been a principle or strategic advisor for fifteen successful acquisitions, dispositions or joint ventures within the magnetics industry.



Terry K. Clagett -- Terry is currently President and CEO of WebMagnetics, Inc. Terry has over 30 years of experience in sales, sales management, market development, marketing and general management. He has served the permanent magnet and sealant and adhesive equipment industries at Colt Industries, the Allen-Bradley Company, Crucible Steel and Accumetric. Terry has experience establishing sales organizations serving the European, Canadian, Chinese, Asian and South and Central American markets, including distribution networks.

Terry's permanent magnet expertise includes alnico, sintered and bonded ferrite, samarium cobalt, and sintered and bonded neodymium iron boron. He has executive management experience with off-the-shelf and custom designed equipment for dispensing single and plural component reactive chemicals such as epoxies, polyurethanes (flexible and rigid foams), urethane elastomers and silicones.

He has served on the Board of Directors of the Magnetic Material Producer's Association (MMPA) and on the Editorial Review Board of Adhesive Age Magazine. He has written numerous articles and papers for various trade publications, conferences, seminars and trade shows. Terry holds a B.S. with majors in Chemistry and Biology from Murray State University.



Stanley R. Trout -- Stan's professional life has been almost evenly divided between the permanent magnet and rare earth industries. Previous employers include Magnequench, Molycorp, Hitachi Magnetics, Crucible Magnetics and Recoma. Among Stan's noteworthy projects are: the use of permanent magnets in early MRI systems, the design of break-away goal posts for ice hockey, the use of Helmholtz coils for magnetic measurements and the utilization of hydrogen decrepitation for the size reduction of NdFeB ingots.

Stan has taught physics, materials science, mathematics, astronomy and technical writing for Marian University, Ivy Tech, Alma College and Ellis University.

In 2001, Stan launched Spontaneous Materials, a consultancy offering solutions to technical and commercial problems, and as a resource for technical writing and training. Dr. Trout is a registered professional engineer, with a B. S. in Physics from Lafayette College and a Ph.D. from the University of Pennsylvania in Metallurgy and Materials Science. He is a senior member of the IEEE Magnetics Society, a member of the UK Magnetics Society, SMMA (Small Motor Manufacturing Association) and a board member of EMERF (Electric Motor Education & Research Foundation).

Permanent Magnets: 2010-2020

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December 15, 2010

The global permanent magnet market is expected to grow from nearly \$13.4 billion in 2015 to roughly \$20 billion by 2020, with a compound annual growth rate (CAGR) of 8.4% for the period of 2015-2020. Report Includes. An overview of the global permanent magnet industry, with focus on rare earth-based permanent magnets, namely neodymium-iron-boron (NdFeB) and samarium cobalt (SmCo) magnets, along with ferrite and aluminum-nickel-cobalt (AlNiCo) magnets. Analyses of global market trends, with data from 2014, 2015, and projections of compound annual growth rates (CAGRs) through 2020. An overview o