

## Permanent Magnet Information Center

When the same subject comes up in several different conversations, I take it as a strong suggestion that it would make a good subject for this column. The subject that has been coming up lately is the idea that we need a Permanent Magnet Information Center (PMIC) in North America.

The main purpose of the center is to have a single technical resource for people looking for information about permanent magnets. Many people have told me that they frequently receive inquiries from people needing technical information that is beyond the realm of suppliers, trade groups, consultants or academics. This is my experience, too. For many inquiries, there is really no place to send people to find the information they require.

One reason to consider this project now is that there has been a long steady flow of technical expertise out of the industry in the U.S. as activities have moved to China. We need a repository, a place where information can be stored, organized and reclaimed by future workers in the field. Otherwise we are doomed to keep reinventing the wheel on a regular basis. Of course with the availability of inexpensive magnets and magnet containing products from China, it is easy to argue we do not need to know how to make or use magnets in the U.S. on a large scale ever again; someone else will do that for us. Who really knows if this belief is correct? To agree with this argument is to invite disaster. Conditions are likely to change and we would have to start the process from scratch unless we retain some key information to seed future activities. As recent events have taught us, we need to be better prepared.

The Rare Earth Information Center (RIC) at Iowa State University in Ames, Iowa, may be a good model for the PMIC. The RIC existed from 1966 to 2002, established by the U.S. Atomic Energy Commission's Division of Technical Information to be a focal point for anyone interested in the rare earths. It was also done in part to keep information that researchers had collected over several decades at Ames Laboratory and Iowa State University, going back to the work done there under the Manhattan Project during World War II. The RIC was supported by a broad combination of government, industrial and even personal contributions. It maintained an extensive database and library. At its peak, the RIC handled about 500 inquiries a year. It kept the industry informed on current events through two newsletters. The RIC News was distributed quarterly to about 2000 subscribers at no cost. The RIC Insight was distributed monthly to all supporters, who numbered over 200 supporters at the peak. But the mix of funding shifted over time, until 2/3 of the funding came from the state of Iowa. When that support was severely cut in 2002, the RIC was compelled to close.

There may be a lesson in this story for anyone considering setting up any information center, as I am suggesting here. Funding can be mercurial. It is important to keep the size and scope of the PMIC modest for the best longevity.

Another similar institution was the Permanent Magnet Association (PMA) in the U.K. that existed from 1932 to 1974, although it was originally called the Cobalt Steel Magnet

Makers Association until 1937. It provided technical, quality and pricing information to its supporting members, who were primarily magnet makers, located in the immediate vicinity. It supported a staff of about 15 people over most of its lifetime. Their motivation was somewhat similar to ours, to maintain some level of technical support for a national magnet industry under significant pressure from foreign competition. After the PMA closed, several people and some of the equipment moved to what is now called Sunderland University to become the Magnet Centre<sup>1</sup>, which is active today. To some extent, one can claim that the U.K. magnetic industry is as lively and healthy as it is today because of these institutions.

Where should this center be? I think there are a few reasonable places, although the one that stands out to me is the University of Dayton. It has a long storied history of constant involvement with permanent magnets, going back to Karl Strnat's work in the 1960's and continuing through today. It seems reasonable to establish the center in a place already associated with permanent magnets. There are other possibilities, but probably the best place is where the support can be found.

Let me end with a quote from the Dr. McCaig, who was a driving force in the PMA. The quote is from the Intermag Conference in 1968. A long time ago, but I think that his words speak to us about this issue exceptionally well. He said, "The main point is that there is a risk that, if people are not told about permanent magnets, they may never think of inquiring about them when they have a problem which a permanent magnet could solve."<sup>2</sup> Of course we hope that a Permanent Magnet Information Center will prevent or lessen this possibility.

Is there really a need for such an institution? If it existed, would anyone use it or support it? Perhaps the last question is the most difficult and telling. I would appreciate any feedback that our readers would like to send me on the subject. Clearly I think the answer is "yes".

## References

1. The Magnet Center at Sunderland University, [www.cet.sunderland.ac.uk/magnet/index.htm](http://www.cet.sunderland.ac.uk/magnet/index.htm)
2. Malcolm McCaig, *Present and Future Technological Applications of Permanent Magnets*, IEEE Transaction on Magnetics **4** (1968) 221-228.

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**Spontaneous Materials**