



Photo: Reidar Hahn, Fermilab

Accelerators for the future good

With the world economy facing serious challenges and rising pressure to reduce US budget deficits, basic science in the United States looks to be in for some battles during the next few years. Of course, basic science has always been a strong economic driver, but the benefits tend to be further in the future than the next election and so are often trumped by projects with shorter-term payoffs.

In an attempt to help explain the benefits of basic research, scientists, engineers, and industrialists met for the "Accelerators for America's Future" workshop last October. Their goal was to explore and explain how accelerators can be put to practical use in a number of areas, including energy and the environment, medicine, industry, security, and discovery. The report from that meeting has recently been issued and we reprint the introduction on page 10.

While solving everyday problems is not the goal of basic science, it is important to explore potential applications when the opportunities arise. Henry Ford once said, "If I had asked people what they wanted, they would have said faster horses." This quote is often used to illustrate the power of thinking differently, one of the key features of basic research, but it also carries the implication that customers don't know what is best for them. We are living in a more sophisticated world now, and closer ties between suppliers and customers can benefit both. The accelerator workshop brought together the customers (medicine, industry, security) and the suppliers (science, engineering), not to tell science and engineering which way they should go, but to show what a sustained, robust program of accelerator research could produce for the United States.

If scientists just wanted improved medical diagnostics or better packaging materials or more effective cargo scanning, they could probably solve those problems without a full accelerator program. We'd have our faster horses. But we'd miss out on the big leaps of technology that come only from basic research, and we wouldn't have the benefit of all the other applications that come along automatically.

The new report shows that accelerator development has a lot to offer society. However, the United States will reap the benefits only if it invests smartly and sufficiently.

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