

incorporated into the turbine. Closed-loop steam cooling of blades and rotors, techniques developed in the joint government-industry program, have effectively eliminated efficiency losses caused by earlier methods of air cooling. Although the United States dominates the global turbine market, foreign vendors are closing the gap. The leapfrog turbine emerging from the Department's program is expected to **maintain U.S. dominance in a multibillion dollar world market.**

High Energy Batteries for Consumer Products

Investigations supported by the Department of Energy of nonaqueous electrolytes such as propylene carbonate provided the fundamental information needed to develop batteries based on electrolytes. High-energy primary (nonrechargeable) lithium batteries, which were not available prior to this research, are now in widespread commercial use. New generations of these electrolytes are also employed in secondary (rechargeable) lithium batteries now under development and in early stages of commercialization. The commercial use of such high-energy batteries has accompanied and **enabled the explosive growth of the multibilliondollar portable electronics industry**, which includes laptop computers and portable tools. The technology can also be used in home and auto security systems, electronic tools, robotics, and medical instruments.