tion, in construction for inspection of structural defects, in law enforcement for the analysis of evidence, in computers and computer science, and in the making of computer chips. They are applied in electronics, cryogenics, copier technology, synchrotron light sources, petroleum exploration and recovery, pulsed power sources, computer control of large-scale systems control, and superconducting magnets and microwave sources development.

Science and technology outgrowths of this effort see daily use in telecommunications, power generation and distribution, vacuum technology, optics, precision mechanics, magnet technology, welding, car design, railways, shipbuilding, subway control, refrigeration, material storage, television, and solar energy. They serve the Nation's economy in nondestructive testing by electron beams, in ion implantation of semiconductors and artificial joints, and in high-resolution electron microscopy, heavy ion fusion research, monitoring and control of thin films, and industrial radiography.

Microchips and lasers were not contained, even implicitly, in the textbooks and handbooks of physicists who, in the 1920's and 1930's laid the groundwork for their development. Nor were they tripped over "by accident" in some laboratory. Accelerator designers of the 1940's and 1950's had no expectation that the understanding they were achieving would lead to CAT and MRI scanners, and to the diagnosis and treatment of a large number of human afflictions. Yet, it is hard to think of any practical technology important to our economic competitiveness or our standard of living that is not being bolstered, directly or indirectly, by high-energy physics research into fundamental aspects of matter and energy.