

The preparation of this report was in its final stages when the terrorist attacks of Tuesday September 11, 2001 occurred. The disaster and its aftermath emphasized the extraordinary interconnectedness of today's world and, along with a newly realized vulnerability, the strength, resilience, and vibrancy of our society and economy.

During the Second World War, it became apparent that science and engineering could make immense contributions to national security and other national goals. In some sense, it can be said that this realization was instrumental in the development of a pivotal role for the Federal Government in science and engineering and in the formation of a powerful and creative national research enterprise. The continued success of this enterprise is even more important now as the significance of advances in science and engineering in the global context has grown dramatically. The global economy rests on a highly articulated communication and information infrastructure and increasingly relies on knowledge and innovation for its growth and for its core processes.

The benefits of science and engineering, however, are not equally shared. In many cases, the gap between the least developed nations and those that have historically benefited the most from the global knowledge based economy has grown. However, all countries, including the poorest, need to build their science and engineering infrastructure capacity and especially their human capacity through education and training. Advances in science and engineering not only can, but will contribute to the generation of new opportunities, to the solution of problems, and to long-term and broad-based economic well being.

The recommendations in this report, developed over the past year, remain as relevant as before September 11, and their implementation even more compelling.

In addition to creating new knowledge, increased international collaboration in science and engineering research and education contributes to the emergence of a global culture that bridges the centrifugal and often conflicting forces of national and ethnic identities. In a contentious world, bilateral and multilateral cooperation in science and engineering help create a universal language and culture, based on commonly accepted values of objectivity, open-mindedness, tolerance, sharing, integrity, and free inquiry.