MESSAGE FROM THE PROGRAM EXECUTIVE

With the arrival of the new millennium, NASA continues to lead the way with creative opportunities through the Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) programs to develop the technologies that our parents and grandparents could only dream about. Across the Nation, small high-technology firms are performing research and development in support of NASA goals to maintain the leadership of the United States in Earth and space science research, aerospace development, and space exploration. At the same time, these companies are helping to maintain a strong technology development base in the U.S. economy.

In this report you will find NASA SBIR and STTR success stories to inspire and encourage a new generation of innovators who will lead our Nation through the next century, including

- A technology derived from NASA Space Shuttle plant growth experiments that led to the development of pinhead-sized light-emitting diodes (LED's) with potential for cancer treatment applications.

- Multiple cutting-edge aircraft technologies brought to a single focus with the purpose of supporting the development and manufacture of a new class of aircraft that will revolutionize the general aviation industry.

- Robotic technology that is on its way to making beating heart bypass surgery a reality.

These stories illustrate clearly that the SBIR and STTR programs address some of the most difficult challenges and yield significant technologies that can have a far reaching impact on the economy.

The NASA SBIR and STTR programs target three strategic objectives for program success: the cultivation and development of innovative solutions, the nurturing of partnership agreements, and the facilitation of commercial opportunity. This report will show how the programs not only contribute to the reduction of taxpayer dollars required to carry out NASA missions, but also create excitement—both inside and outside of the Agency —about the strides being made in technology.

The SBIR and STTR programs provide an avenue for small businesses to meet many of NASA's research and development needs. NASA views the cadre of small businesses, including woman- and minority-owned businesses, as a vital link to our future as an Agency. The innovative, bold, aggressive approaches of these companies to research represent the best in NASA's spirit of doing business better, cheaper, and faster.

Some of the changes to the programs that are given in this report, such as the alignment of topics and subtopics to NASA mission and program goals and the implementation of a totally electronic management and submission system, are evidence of a renewed spirit in the NASA SBIR and STTR programs. That spirit, growing across the Agency, is all about "helping small business make a big difference."

Carl G. Ray
Program Executive

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Both the SBIR and STTR programs are designed to allow small businesses and research institutions to participate in the Nation's annual multibillion dollar investment in research and development. The programs fund projects that lead to new technologies that have high commercial potential and consequently advance U.S. economic productivity and international market competitiveness.

This report details the new NASA SBIR and STTR programs. There are statistics on program participation, status of strategic initiatives, and an extensive look at program results over SBIR's 16-year history. But most importantly, success stories about individual SBIR projects and aspects of technical and commercial accomplishments are described. We are all very excited about the current momentum of the programs and with feedback from this report we hope to make further refinements. NASA SBIR and STTR programs are "programs that can and do deliver."

Carl G. Ray
Program Executive