

which is promoted and facilitated by the increasingly active involvement of foreign governments, and (B) other changes in the nature of foreign competition.

(4) The principal cause of the relative shift in strength of the United States and its semiconductor competitors is the establishment of a long-term goal by a major foreign competitor to achieve world superiority in semiconductor research and manufacturing technology and the pursuit of such goal by that competitor by effectively marshalling all of the government, industry, and academic resources needed to achieve that goal.

(5) Although the United States semiconductor industry leads all other principal United States industries in terms of its reinvestment in research and development, that has been insufficient by worldwide standards.

(6) Electronic equipment is essential to protect the national security of the United States, as is evidenced by the allocation of approximately 35 percent of the total research, development, and procurement budgets of the Department of Defense to electronics research.

(7) The Armed Forces of the United States will eventually depend extensively on foreign semiconductor technology unless significant steps are taken, and taken at an early date, to retain United States leadership in semiconductor technology research.

(8) It is in the interests of the national security and national economy of the United States for the United States to regain its traditional world leadership in the field of semiconductors.

(9) The most effective means of regaining that leadership is through a joint research effort of the Federal Government and private industry of the United States to improve semiconductor manufacturing technology and to develop practical uses for such technology.

(10) In order to meet the national defense needs of the United States and to insure the continued vitality of a commercial manufacturing base in the United States, it is essential that priority be given to the development, demonstration, and advancement of the semiconductor technology base in the United States.

(11) The national laboratories of the Department of Energy are a major national research resource, and the extensive involvement of such laboratories in the semiconductor research initiatives of the Federal Government and private industry would be an effective use of such laboratories and would help insure the success of such initiatives.

(Pub. L. 100-180, div. C, title I, §3141, Dec. 4, 1987, 101 Stat. 1241.)

**§ 4622. Establishment of semiconductor manufacturing technology research initiative**

The Secretary of Energy shall initiate and carry out a program (hereinafter in this subchapter referred to as the "Initiative") of research on semiconductor manufacturing technology and on the practical applications of such technology. The Secretary may carry out the Initiative in a way that complements the activi-

ties of a consortium of United States semiconductor manufacturers, materials manufacturers, and equipment manufacturers, established for the purpose of conducting research concerning advanced semiconductor manufacturing techniques and developing techniques to adopt manufacturing expertise to a variety of semiconductor products.

(Pub. L. 100-180, div. C, title I, §3142, Dec. 4, 1987, 101 Stat. 1242.)

REFERENCES IN TEXT

This subchapter, referred to in text, was in the original "this subtitle" and was translated as reading "this part" meaning part D of title I of division C of Pub. L. 100-180 which enacted this subchapter, to reflect the probable intent of Congress because title I did not contain subtitles.

**§ 4623. Participation of national laboratories of Department of Energy**

**(a) Mission of national laboratories**

Each national laboratory of the Department of Energy may participate in research and development projects under the Initiative in conjunction with the Department of Defense or with any consortium, college, or university carrying out any project for or in cooperation with any consortium referred to in section 4622 of this title, to the extent that such participation is consistent with the missions of the national laboratory.

**(b) Agreements**

The Secretary of Energy may enter into such agreements with the Secretary of Defense, with any consortium referred to in section 4622 of this title, and with any college or university as may be necessary to provide for the active participation of the national laboratories of the Department of Energy in the Initiative.

**(c) Research and development**

One or more national laboratories of the Department of Energy shall participate in the Initiative by conducting research and development activities relating to research on the development of semiconductor manufacturing technologies. Such activities may include research and development relating to materials fabrication, materials characterization, design and modeling of devices, and new processing equipment.

(Pub. L. 100-180, div. C, title I, §3143, Dec. 4, 1987, 101 Stat. 1243.)

**§ 4624. Personnel exchanges**

The Secretary of Energy may authorize temporary exchanges of personnel between the national laboratories of the Department of Energy and any domestic firm or any consortium referred to in section 4622 of this title that is participating in the Initiative. The exchange of personnel shall be subject to such restrictions, limitations, terms, and conditions that the Secretary of Energy considers necessary in the interest of national security.

(Pub. L. 100-180, div. C, title I, §3144, Dec. 4, 1987, 101 Stat. 1243.)