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IN THE SENATE OF THE UNITED STATES  
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Mr. Tsongas introduced the following bill; which was read twice  
and referred to the Committee on \_\_\_\_\_

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## A BILL

To provide for a study on economic strategic technologies and to  
identify and provide for the development of such  
technologies.

1     Be it enacted by the Senate and House of Representatives  
2     of the United States of America in Congress assembled, That  
3     this Act may be cited as the ``Economically Strategic  
4     Industrial Research and Development Act``.

## FINDINGS

5  
6     Sec. 2. The Congress finds that--

7             (1) technology development is vital to the United  
8     States economy;

9             (2) industries engaged in technology development  
10     contribute greatly to economic growth, have a growth rate  
11     that doubles the growth rate of total industrial output,  
12     and make a positive contribution to the overall negative  
13     manufacturing trade balance;

14            (3) technological innovation is key to the efforts of  
15     basic industries to improve productivity;

16            (4) United States technology is experiencing strong  
17     competitive challenges internationally which have  
18     resulted in a world-wide decline in market share for high  
19     technology industries in the United States;

20            (5) intensive targeted research and development plans

1 of other countries are shifting technological advantage  
2 overseas in selected areas and may preclude valuable  
3 long-term technological developments by United States  
4 industry;

5 (6) the development of economically strategic  
6 technologies, in areas including microelectronics,  
7 materials development, biotechnology, robotics,  
8 manufacturing processes, and artificial intelligence,  
9 offers great potential benefits to the economy;

10 (7) Federal Government support of nondefense related  
11 industrial research and development is an important  
12 governmental activity;

13 (8) the riskiness of long-term research and  
14 development efforts and the growth of foreign research  
15 and development programs require a vigorous Federal role  
16 in technology development;

17 (9) assessing the adequacy of current Federal  
18 research and development activities and spending  
19 priorities requires--

20 (A) identification of economically strategic  
21 technologies by the research community;

22 (B) reliable assessment of research and  
23 development activity in other countries on  
24 economically strategic technologies;

25 (C) assessment of efforts in the United States,  
26 including industrial, academic, nonprofit, State,  
27 Federal, defense, and nondefense related research and  
28 development activity; and

29 (D) consideration of competitive strategy in  
30 attaining maximum benefit from development of  
31 economically strategic technologies;

32 (10) a plan for the development of economically  
33 strategic technologies can best be developed by industry,  
34 the academic community, and government, with each

*market*

*assessed*

*+*

*industry*

1 spending levels for defense and nondefense research and  
2 development, the nature of the development program, and  
3 the potential for transfer of defense technologies to  
4 nondefense use;

5 (5) determine current levels of research and  
6 development effort by foreign nations for each technology  
7 and assess the stage of development and the competitive  
8 strategy being employed by other nations;

9 (6) consider the competitive potential of United  
10 States industry for future markets, the benefits of lead  
11 versus follow-up development, and competitive risks  
12 involved such as the potential for development of over  
13 capacity or external costs;

14 (7) assess the technological feasibility of  
15 development and the risk for each technology;

16 (8) consider the necessary time for development of  
17 each technology, focusing on technologies with a  
18 development horizon of five to eight years; and

19 (9) consider the potential economic benefit of the  
20 technology and evidence that United States industry will  
21 fail to realize such benefits in the absence of an  
22 enhanced technology development program.

23 (b) The study shall include a technology development  
24 program for each technology designated as economically  
25 strategic. <sup>10) CATENAL</sup> Each research organization may establish an  
26 advisory committee composed of industry and academic experts  
27 to make recommendations for each such program. The terms of  
28 compensation for expenses or service, if any, for such  
29 members shall be included in the agreement made pursuant to  
30 section 5. Each such program shall describe the strategy for  
31 development and recommend--

32 (1) participants in the program and program  
33 responsibilities;

34 (2) levels of effort and financial commitment for

*parvash*

1 each participant and program totals;

2 (3) timetable of milestones and budget outlays;

3 (4) appropriate licensing and patent arrangements for  
4 participants and nonparticipants, giving equal weight to  
5 fair financial return to participants and rapid  
6 technology transfer and diffusion;

7 (5) policy action or spending required of the Federal  
8 Government, including a designation of appropriate  
9 Federal agencies to participate in the development  
10 program and to dispense Federal funds and recommendations  
11 for additional Federal funding with an explanation of the  
12 obstacles in finding financing from private sources; and

13 (6) methods for encouraging participation by small  
14 business in the technology development program.

15 (c) The Committee, established in accordance with the  
16 agreement made pursuant to section 5, shall submit to the  
17 President and to the Committee on Commerce, Science and  
18 Transportation of the Senate and the Committee on Science and  
19 Technology of the House of Representatives interim reports of  
20 each technology development plan formulated for each  
21 designated economically strategic technology, an annual  
22 report at the end of each calendar year summarizing the  
23 activities of the research organizations regarding the study,  
24 and not later than three years after the date of enactment of  
25 this Act, a final report of the study together with  
26 recommendations, including recommendations for legislation.

27 ADMINISTRATIVE PROVISIONS

28 Sec. 7. (a) Each research organization may, for the  
29 purpose of carrying out the provisions of this Act, hold such  
30 hearings and consult with such representatives in the  
31 business community, educational institutions, Federal, State,  
32 and local governments, and other organizations, associations,  
33 and individuals as the head of each such organization deems  
34 advisable.

1 (b) Each department, agency, and instrumentality of the  
2 executive branch of the Federal Government, including  
3 independent agencies, is authorized and directed to furnish  
4 to any research organization, upon request made by the head  
5 of such organization any information such organization head  
6 deems necessary to carry out the study.

7 AUTHORIZATION OF APPROPRIATIONS

8 Sec. 8. There are authorized to be appropriated such sums  
9 as may be necessary to carry out the study required by this  
10 Act and to implement the technology development programs  
11 recommended in such study.