

107TH CONGRESS
1ST SESSION

H. R. 2733

To authorize the National Institute of Standards and Technology to work with major manufacturing industries on an initiative of standards development and implementation for electronic enterprise integration.

IN THE HOUSE OF REPRESENTATIVES

AUGUST 2, 2001

Mr. BARCIA (for himself and Mr. EHLERS) introduced the following bill; which was referred to the Committee on Science

A BILL

To authorize the National Institute of Standards and Technology to work with major manufacturing industries on an initiative of standards development and implementation for electronic enterprise integration.

1 *Be it enacted by the Senate and House of Representa-*
2 *tives of the United States of America in Congress assembled,*

3 **SECTION 1. SHORT TITLE.**

4 This Act may be cited as the “Enterprise Integration
5 Act of 2001”.

6 **SEC. 2. FINDINGS.**

7 The Congress makes the following findings:

1 (1) Over 90 percent of United States companies
2 engaged in manufacturing are small and medium-
3 sized businesses.

4 (2) Most of these manufacturers produce goods
5 for assemblage into products of large companies.

6 (3) The emergence of the World Wide Web and
7 the promulgation of international standards for
8 product data exchange greatly accelerated the move-
9 ment toward electronically integrated supply chains
10 during the last half of the 1990's.

11 (4) A major Wall Street firm recently estimated
12 that the adoption of electronic commerce-based sup-
13 ply chains in various manufacturing industries can
14 reduce business costs from 10 percent to 40 percent.

15 (5) European and Asian countries are investing
16 heavily in electronic enterprise standards develop-
17 ment, and in preparing their smaller manufacturers
18 to do business in the new environment. European ef-
19 forts are well advanced in the aerospace, automotive,
20 and shipbuilding industries and are beginning in
21 other industries including home building, furniture
22 manufacturing, textiles, and apparel.

23 (6) If United States manufacturers are to re-
24 main competitive, they must match their overseas
25 competition by making sure that standards, includ-

1 ing application protocols, developed for electronic
2 business in their industry worldwide reflect their
3 needs and the needs of their customers and sup-
4 pliers.

5 (7) Many American small and medium-sized
6 manufacturers run the risk of losing their largest
7 customers during the first half of this decade unless
8 they adopt computer aided design, engineering, and
9 manufacturing systems in their work places and
10 learn how to participate with customers and sup-
11 pliers in integrated electronic enterprises.

12 (8) Application protocols are very complex
13 standards, often running thousands of pages, and
14 require the cooperation of entire industries for their
15 development.

16 (9) The National Institute of Standards and
17 Technology, because of the electronic commerce ex-
18 pertise in its laboratories and quality program, its
19 long history of working cooperatively with manufac-
20 turers, and the nationwide reach of its manufac-
21 turing extension program, is in a unique position to
22 help United States large and smaller manufacturers
23 alike in their responses to this challenge.

1 (10) It is, therefore, in the national interest for
2 the National Institute of Standards and Technology
3 to accelerate its efforts—

4 (A) in helping major manufacturing indus-
5 tries develop standards and enterprise integra-
6 tion processes that are necessary to increase ef-
7 ficiency and lower costs; and

8 (B) in making sure that every small or me-
9 dium-sized manufacturer has the option of up-
10 grading its manufacturing capabilities to the
11 point where it can be part of an electronic sup-
12 ply chain of a major manufacturing industry.

13 **SEC. 3. ENTERPRISE INTEGRATION INITIATIVE.**

14 (a) **ESTABLISHMENT.**—The Director shall establish
15 an initiative for advancing enterprise integration within
16 the United States. In carrying out this section, the Direc-
17 tor shall involve, as appropriate, the various units of the
18 National Institute of Standards and Technology, including
19 the National Institute of Standards and Technology lab-
20 oratories, the Manufacturing Extension Partnership pro-
21 gram established under sections 25 and 26 of the National
22 Institute of Standards and Technology Act (15 U.S.C.
23 278k and 278l), and the Malcolm Baldrige National Qual-
24 ity Program. This initiative shall begin with product data
25 management and build upon ongoing efforts of the Na-

1 tional Institute of Standards and Technology and of the
2 private sector, shall involve consortia that include govern-
3 ment and industry, and shall be designed to permit enter-
4 prise integration in each United States major manufac-
5 turing industry at the earliest possible date.

6 (b) ASSESSMENT.—For each major manufacturing
7 industry, the Director may work with industry representa-
8 tives and organizations currently engaged in enterprise in-
9 tegration activities, and others as appropriate, to identify
10 all enterprise integration standardization and implementa-
11 tion activities underway in the United States and abroad
12 that impact that industry and to assess the current state
13 of enterprise integration within that industry. The Direc-
14 tor may assist such industry representatives and organiza-
15 tions in the development of roadmaps that identify the re-
16 maining steps needed to ensure that the standards, appli-
17 cation protocols, and support for suppliers are in place to
18 permit supply chains within the industry to operate as an
19 integrated electronic enterprise. The roadmaps shall use
20 voluntary consensus standards where possible. Working
21 with such industry representatives and organizations to
22 ensure that their needs are met, the National Institute of
23 Standards and Technology shall develop milestones and
24 anticipated costs by fiscal year for activities of the Federal
25 Government in support of the roadmaps developed, and

1 shall make those milestones and anticipated costs known
2 to industry.

3 (c) PLANS AND REPORTS.—Within 90 days after the
4 date of the enactment of this Act, the Director shall report
5 to the Congress on efforts made to publicize the avail-
6 ability of assistance under this section and on anticipated
7 related activities of the National Institute of Standards
8 and Technology for the then current fiscal year. Within
9 180 days after the date of the enactment of this Act, and
10 annually thereafter, the Director shall submit to the Con-
11 gress a report on the National Institute of Standards and
12 Technology’s activities under subsection (b).

13 (d) AUTHORIZED ACTIVITIES.—In order to carry out
14 this Act and the plans prepared under subsection (c), the
15 Director may—

16 (1) work with companies and trade associations
17 within a major manufacturing industry to raise
18 awareness of enterprise integration activities in the
19 United States and abroad, including convening meet-
20 ings;

21 (2) work with an industry on the development
22 of enterprise integration roadmaps;

23 (3) support the development, testing, promulga-
24 tion, and adoption of standards, including applica-
25 tion protocols;

1 (4) support the development, promulgation, in-
2 tegration, and upgrading of standards related to en-
3 terprise integration;

4 (5) support pilot projects that include small and
5 medium-sized businesses for new standards and en-
6 terprise integration;

7 (6) ensure the training and regular upgrading
8 of skills of Manufacturing Extension Program em-
9 ployees;

10 (7) develop tool kits and employee training ma-
11 terials and take other steps necessary to permit
12 small and medium-sized businesses to participate in
13 an integrated enterprise; and

14 (8) set up legal and financial mechanisms to
15 permit groups of Manufacturing Extension Program
16 centers to work collectively on modernizing and inte-
17 grating a company's or industry's supply chain.

18 **SEC. 4. DEFINITIONS.**

19 For purposes of this Act—

20 (1) the term “automotive” means land-based
21 engine-powered vehicles including automobiles,
22 trucks, busses, trains, defense vehicles, farm equip-
23 ment, and motorcycles;

24 (2) the term “Director” means the Director of
25 the National Institute of Standards and Technology;

1 (3) the term “enterprise integration” means the
2 electronic linkage of manufacturers, assemblers, sup-
3 pliers, and customers to enable the electronic ex-
4 change of product, manufacturing, and other busi-
5 ness data among all partners in a product supply
6 chain, and such term includes related application
7 protocols and other related standards;

8 (4) the term “major manufacturing industry”
9 includes the aerospace, automotive, electronics, ship-
10 building, construction, home building, furniture, tex-
11 tile, and apparel industries and such other industries
12 as the Director designates; and

13 (5) the term “National Institute of Standards
14 and Technology laboratories” means those institutes
15 of the National Institute of Standards and Tech-
16 nology with expertise in electronic commerce, includ-
17 ing the Manufacturing Engineering Laboratory, the
18 Building and Fire Research Laboratory, and the In-
19 formation Technology Laboratory.

20 **SEC. 5. AUTHORIZATION OF APPROPRIATIONS.**

21 There are authorized to be appropriated to the Direc-
22 tor to carry out functions under this Act \$10,000,000 for
23 fiscal year 2002, \$15,000,000 for fiscal year 2003, and

1 such sums as may be necessary for subsequent fiscal
2 years.

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