

the number of Manufacturing USA institutes that participate in the Manufacturing USA Network.”

FINDINGS

Pub. L. 113-235, div. B, title VII, § 702, Dec. 16, 2014, 128 Stat. 2220, provided that: “Congress finds the following:

“(1) In 2012, manufacturers contributed \$2.03 trillion to the economy, or $\frac{1}{5}$ of United States Gross Domestic Product.

“(2) For every \$1.00 spent in manufacturing, another \$1.32 is added to the economy, the highest multiplier effect of any economic sector.

“(3) Manufacturing supports an estimated 17,400,000 jobs in the United States—about 1 in 6 private-sector jobs. More than 12,000,000 Americans (or 9 percent of the workforce) are employed directly in manufacturing.

“(4) In 2012, the average manufacturing worker in the United States earned \$77,505 annually, including pay and benefits. The average worker in all industries earned \$62,063.

“(5) Taken alone, manufacturing in the United States would be the 8th largest economy in the world.

“(6) Manufacturers in the United States perform two-thirds of all private-sector research and development in the United States, driving more innovation than any other sector.”

§ 278t. Advanced communications research activities

(a) Advanced communications research

(1) In general

The Director, in consultation with the Assistant Secretary for Communications and Information, the Director of the National Science Foundation, and heads of other Federal agencies, as appropriate, shall carry out a program of measurement research for advanced communications technologies.

(2) Research areas

Research areas may include—

(A) radio frequency emissions and interference, including technologies and techniques to mitigate such emissions and interference;

(B) advanced antenna arrays and artificial intelligence systems capable of operating advanced antenna arrays;

(C) artificial intelligence systems to enable internet of things networks, immersive technology, and other advanced communications technologies;

(D) network sensing and monitoring technologies;

(E) technologies to enable spectrum flexibility and agility;

(F) optical and quantum communications technologies;

(G) security of advanced communications systems;

(H) public safety communications;

(I) resilient internet of things applications for advanced manufacturing; and

(J) other research areas determined necessary by the Director.

(3) Testbeds

In coordination with the Assistant Secretary for Communications and Information, the private sector, and other Federal agencies as appropriate, the Director may develop and manage testbeds for research and development of

advanced communications technologies, avoiding duplication of existing testbeds run by other agencies or the private sector.

(4) Outreach

In carrying out the activities under this subsection, the Director shall seek input from other Federal agencies and from private sector stakeholders, on an ongoing basis, to help inform research and development priorities, including through workshops and other multi-stakeholder activities.

(5) Technical roadmaps

In carrying out the activities under this subsection, the Director shall convene industry, institutions of higher education, nonprofit organizations, Federal laboratories, and other Federal agencies engaged in advanced communications research and development to develop, and periodically update, coordinated technical roadmaps for advanced communications research in priority areas, such as those described in paragraph (2).

(b) National Advanced Spectrum and Communications Test Network

(1) In general

The Director, in coordination with the Administrator of the National Telecommunications and Information Administration and heads of other Federal agencies, as appropriate, shall operate a national network of government, academic, and commercial test capabilities and facilities to be known as the National Advanced Spectrum and Communications Test Network (referred to in this section as “NASCTN”).

(2) Purposes

NASCTN shall be for the purposes of facilitating and coordinating the use of intellectual capacity, modeling and simulation, laboratory facilities, and test facilities to meet national spectrum interests and challenges, including—

(A) measurements and analyses of electromagnetic propagation, radio systems characteristics, and operating techniques affecting the utilization of the electromagnetic spectrum in coordination with specialized, related research and analysis performed by other Federal agencies in their areas of responsibility;

(B) conducting research and analysis in the general field of telecommunications sciences in support of the Institute’s mission and in support of other Government agencies;

(C) developing methodologies for testing, measuring, and setting guidelines for interference;

(D) conducting interference tests to better understand the impact of current and proposed Federal and commercial spectrum activities;

(E) conducting research and testing to improve spectrum interference tolerance, flexibility, agility, and interference mitigation methods; and

(F) other activities as determined necessary by the Director.

(Mar. 3, 1901, ch. 872, § 35, as added Pub. L. 117-167, div. B, title II, § 10230(2), Aug. 9, 2022, 136 Stat. 1482.)

§ 278u. Xylazine detection and analysis**(a) Definitions**

In this section:

(1) Director

The term “Director” means the Director of the National Institute of Standards and Technology.

(2) Federal laboratory

The term “Federal laboratory” has the meaning given such term in section 3703 of this title.

(3) Institute

The term “Institute” means the National Institute of Standards and Technology.

(4) Institution of higher education

The term “institution of higher education” has the meaning given such term in section 1001 of title 20.

(5) Nonprofit organization

The term “nonprofit organization” means an organization described in section 501(c)(3) of title 26 and exempt from tax under section 501(a) of such title.

(6) Xylazine

The term “xylazine” means the nonopioid tranquilizer methyl benzene compound frequently used in veterinary medicine as an emetic and sedative with analgesic and muscle relaxant properties.

(b) In general

The Director shall—

(1) support intramural basic measurement science and research of the Institute to advance—

(A) analytical methods to identify, understand, differentiate, and categorize substances containing xylazine, novel synthetic opioids, or other new psychoactive substances;

(B) measurement technologies to shorten analysis timelines and enhance narcotic and opioid detection and analysis capabilities;

(C) new data tools, techniques, and processes to identify and publicly disclose relevant information concerning substances containing xylazine, novel synthetic opioids, or other new psychoactive substances; and

(D) such other areas as the Director determines to be critical to the development and deployment of technologies to measure and analyze the presence of xylazine, novel synthetic opioids, and other new psychoactive substances;

(2) support activities to inform and expand the development of near-real time spectrometry capabilities regarding xylazine, novel synthetic opioids, and other new psychoactive substances;

(3) convene and consult with organizations engaged in the analysis of new psychoactive substances to develop coordinated strategies and voluntary best practices for the safe handling, transport, data-sharing, and analysis of substances containing xylazine, novel synthetic opioids, or other new psychoactive substances, including—

- (A) the Drug Enforcement Administration;
- (B) the Centers for Disease Control and Prevention;
- (C) the National Institute on Drug Abuse;
- (D) Federal laboratories;
- (E) States and territories;
- (F) State fusion centers;
- (G) the private sector;
- (H) intergovernmental organizations;
- (I) institutions of higher education,¹ and
- (J) nonprofit organizations;

(4) establish or expand collaborative partnerships or consortia with other government agencies and persons engaged in related research and development, such as institutions of higher education, Federal laboratories, public health agencies, intergovernmental organizations, and the private sector, to enhance narcotic and opioid detection and analysis capabilities regarding xylazine, novel synthetic opioids, and other new psychoactive substances; and

(5) encourage graduate and post-graduate research to include detection and identification of xylazine and other new psychoactive substances in relevant course studies when practicable.

(c) Controls

In carrying out activities under this section, the Director shall ensure proper security controls are implemented to protect sensitive information, as the Director considers appropriate and consistent with applicable provisions of law.

(d) Report

Not later than 1 year after December 19, 2023, the Director shall submit to the Committee on Commerce, Science, and Transportation of the Senate and the Committee on Science, Space, and Technology of the House of Representatives a report on the implementation of this section. Such report may include recommendations for legislative action to improve the ability of the Director to carry out this section.

(Pub. L. 118–23, § 2, Dec. 19, 2023, 137 Stat. 125.)

Editorial Notes**CODIFICATION**

Section was enacted as part of the Testing, Rapid Analysis, and Narcotic Quality Research Act of 2023, also known as the TRANQ Research Act of 2023, and not as part of the National Institute of Standards and Technology Act which comprises this chapter.

§ 279. Absence of Director

In the case of the absence of the Director of the National Institute of Standards and Technology the Secretary of Commerce may designate some officer of said Institute to perform the duties of the director during his absence.

(Mar. 4, 1911, ch. 237, § 1, 36 Stat. 1231; Mar. 4, 1913, ch. 141, § 1, 37 Stat. 736; Pub. L. 100–418, title V, § 5115(c), Aug. 23, 1988, 102 Stat. 1433.)

Editorial Notes**CODIFICATION**

Section was not enacted as part of the National Institute of Standards and Technology Act which comprises this chapter.

¹ So in original. The comma probably should be a semicolon.