



U.S. SENATE COMMITTEE ON
COMMERCE, SCIENCE, & TRANSPORTATION

U.S. Senator Maria Cantwell

CHIPS and Science Act Floor Speech

U.S. Senate Floor

July 27, 2022

Transcript

[VIDEO](#)

Senator Cantwell: I come to the floor today to talk about the legislation before us and how it is an investment today for jobs tomorrow. And I want to thank my colleague from Mississippi for his partnership on this legislation; it seems like a century ago that we had a markup in committee and passed this out, the science portion which we're now voting on, 24 to 4, more than a year ago. And yet here we are today, on the product of much negotiation, not just our committee, but seven other committees.

We're here because we know that innovation is in the DNA of Americans. And we know that it helped us win the World Wars, it's helped us cure disease, we know it's helped create millions of jobs, and it's helped members of their business community on opposite sides of a phone call or an email connect to each other to get a product or a service.

So this bill embraces Americans innovation and our tradition of it, and I, too, encourage a yes vote. After watching the COVID crisis mangle our supply chain, and seeing semiconductors be a big part of inflation, the shortage in semiconductors has increased the cost of a used car by more than 40%, putting it out of reach of many families at a time when they just needed a car to drive to work.

So this bill is about making sure that we face our manufacturing challenges here at home, and that we train and skill the scientists and the workers to get that done. And so thanks start with Senator Schumer and Young for their hard work in introducing this legislation more than two years ago. Senator Schumer's great work with Senator Young on this was an eye-opening change in the way that we make investments in R&D. It was a concept novel then, but I think we have a lot of understanding of it now and that is to move our R&D into faster translation into products and services. Why? Because the rest of the world is doing that, and we need to hurry as well.

I also want to just point out there are lots of contributions from members in this bill: Senator Peters on AI scholarships, Senator Cortez Masto on National Science Technology Strategy, Senator Rosen on critical minerals, Senator Sinema and our NASA Authorization, Senator Warnock on semiconductor supply chains, Senator Brown and Coons on manufacturing USA Institutes, Senator Ossoff on cybersecurity education grants, Senator Menendez on supply chain issues. So many, many things in this legislation contributed by many different members through a regular order process.

But let's get specific about it. There are about five or six things in this bill that really matter to our nation at this critical moment. First is a new mission at the National Science Foundation. That new mission is different because the National Science Foundation has been focused on basic research, so we are creating for the first time, at a \$20 billion investment over five years, the focus for that new mission at NSF to say that they have to focus on translating that science into faster discoveries in products and solutions that will help U.S. manufacturing here at home.

And while the United States has excelled at basic research, we have allowed other countries to excel at translational research and that needs to stop now. We need to make the investment in industries from aerospace, to pharmaceuticals, to farming, to information technologies that will help increase the pace of innovation here in the United States of America.

Second, we say that NSF is not alone in this mission. We recognize that the Department of Energy has also a key role to play in translational science. I want to thank the presiding officer, Senator Luján, for his contribution of a \$16.9 billion DOE investment that doubles down on the current work in key technology areas that we also have to do faster translational science to scale up in cutting-edge energy R&D. This was a very large portion of the energy innovation that is funded in this bill.

This legislation also includes a five-year, \$50 billion, first ever reauthorization of the Department [of Energy] Office of Energy Science. And I want to thank Senators Manchin and Barrasso for working on this, and its inclusion in this. Combined these investments will go a long way in reversing the decline in federal R&D that has dropped threefold since 1978. We need to improve U.S. competitiveness, but we're only going to do it by investing today for those jobs tomorrow.

Third, the bill also says that we need to be smarter at how we make our investments. Now, I would say, I represent a tech hub, it's already in existence; it took 30 plus years to create. There are places like Seattle, and San Jose, and San Francisco, and Boston, and San Diego, that you could say are tech hubs. They account for 90% of the growth and innovation sectors between the years 2005 and 2017. But is that all we're going to do in the United States of America, allow innovation to just continue to be more and more expensive because it's only produced in those areas?

I'm a firm believer in distributed generation, whether that's electricity, or whether that's innovation. And the more dispersed the innovation is, you never know where the next

Bill Gates or Bill Boeing is going to be from, and what innovation they might come up with.

So this bill also has a new mission with the Department of Commerce in technology hubs, where it will focus on trying to foster new collaboration between universities, businesses, labor, and local government to accelerate economic growth and opportunity in innovation. These tech hubs will focus on the key technology areas that are in this bill and help us move faster at innovation.

I want to thank my colleague, Senator Tester from Montana, who was a very big advocate and making sure there was geographic diversity to the tech hubs. And we know that while we want to grow more technology advancement in the United States that we also want to see it not just in Seattle, but in places like Spokane, or Indianapolis, or West Virginia, or Wichita.

We also increased in this act, the Manufacturing Extension Partnership. During the pandemic, we saw that many companies could not survive without supplies that were no longer available to them. And we know that, with the manufacturing extension ecosystem, that we have to stay competitive by innovating. This bill delivers \$76 billion over 10 years to develop the next generation of chips and to reestablish chip manufacturing in the United States.

Now, I know my colleague from Vermont, and my colleague from Florida, and many others have criticized this part of the legislation. I would probably agree more with the Senator from Vermont on the prioritization within our budget on various things that will help American families, but we can't ignore that chip production has gone overseas and that the United States has lost its share of that production to the point that we're now down to as little as 12%, or could go to 12%. At which point, who wants to manufacture when the ecosystem is somewhere else?

So we know that just last year alone, chip shortages cost the US economy \$240 billion. That is the automobile industry that didn't have chips, that is part of the electronics industry that didn't have chips. You can say it's even in the cost of every product that you buy, because we certainly didn't produce the transportation system to even move product throughout the United States in companies like PACCAR that are from the Northwest, because they, too, did not have chips to put into their trailers to move product across the United States.

So we know that with every dollar of chip R&D investment, that it increases a GDP gain by \$16.50. So I know my colleagues would like us to make other investments, but I'd say that chips are just as essential as wheat is in America. People think about our farm investment and have no hesitation saying, "Let's make sure that we keep wheat production in the United States of America." I guarantee you chips are no less important, and we have to have an increase in the United States, or we're going to continue to fall behind on national security issues, on economic development issues that are so critical.

We also, in this legislation, make one of the most significant investments in STEM over the last many years. It puts \$13 billion into science, technology, engineering, and mathematic workforce development. It creates \$2 billion to minority serving institutions, including Native American institutions, to encourage their research and innovation.

And I want to thank Senator Wicker, for his leadership on the EPSCoR provisions, probably one of the more hotly debated conversations between our colleagues here in the Senate and in the House. But I would say to my colleagues, this is about innovation everywhere. This is about growing opportunity, everywhere. And that is exactly what we are saying with EPSCoR. You never know what the next innovation is going to bring.

So these key provisions from diversifying our investment in education and job training, from making investments in tech hubs, to the investments in R&D by both DOE and NSF in faster translational science. We are improving the ecosystem that we have in the United States of America. This ecosystem has been built over a long period of time. It represents competing and collaborating organizations. That is what is at the strength of our R&D.

So I want to thank Senators Schumer and Young, Senators Cornyn, and Kelly and many other people who helped introduce and move this legislation. I want to thank Senator Warner for his contributions, and thank again Senator Wicker and his team for the many advances in this legislation. I also would be remiss if I didn't thank retiring Chair Eddie Bernice Johnson, and Ranking Member Frank Lucas, who worked hard to craft what is the legislation before us.

I want to thank on my staff Lila Helms, Melissa Porter, Mary Guenther, Amit Ronen, Stacy Baird, Nikki Teutschel, Christi Barnhart, Johnny Pellish, Rosemary Baize, Erica Holman and Emma Stohlman, for their help. And on Senator Wicker's staff, he already mentioned James Mazol and many other people. And I want to thank on Senator Schumer's staff Jon Cardinal, Mike Kuiken, and Megan Tyra for their hard work. But no one deserves more focus and attention than Richard-Duane Chambers from my staff, who literally worked on the last Competes bill and then worked at DARPA, so knows seriously the challenges that we faced in getting this legislation done and getting it over the goal line.

So I urge my colleagues to support this important legislation. We don't know exactly what innovations will come out of this, but we do know this, America will be more competitive because of it. And we do know this, that we will be able to grow our economy for the future because of the investments that we've made today. I thank the President, and I yield the floor.