

The PRESIDING OFFICER. The Senator will be so notified.

#### INNOVATION PROJECT

Mr. ALEXANDER. Mr. President, today I would like to report some good news about the work of the Senate that should be of interest to every single American family; that is, that we are moving ahead in the Senate on a package of 50 bipartisan proposals that will help move medical devices, medical cures, and medical drugs through the long, expensive, regulatory process and into medicine cabinets and doctors' offices, where they can help patients. We call this our Innovation Project. It is a companion to work that has been done in the House of Representatives already that they call their 21st Century Cures Act. It is also work that President Obama has talked about in important ways. The reason that the House has already done its work, that the President has talked about this in his State of the Union Address, and that we in our HELP Committee in the Senate have been working for a year to develop 50 bipartisan proposals that we hope to bring to the floor of the Senate is because we have never had a more exciting time in biomedical research in America than today. We are talking about actually curing some cancers, not just treating cancers. We are talking about using 3-D printing to actually help replace knees.

I was in a medical device office in Memphis a few weeks ago, and that company told me that in one-third of the cases where it sells knee replacement equipment, it also sells a tool to the doctor made with 3-D printing so that if he or she—the doctor—is replacing the knee of the Senator from Oklahoma, the doctor uses this tool that is just made especially for the knee of the Senator from Oklahoma and virtually eliminates the possibility of a mistake by the doctor in that surgery. The company told me it not only uses 3-D printing in one-third of the cases but that it could easily do it in all of the cases and expects it will soon.

At our hearing about 3 weeks ago, I asked Janet Woodcock, the head of the Center for Drug Evaluation and Research at the Food and Drug Administration, if there had ever been a case of a 3-D of printing of a drug, and she said, yes, there had been one. They have used 3-D printing to manufacture a medicine for epilepsy.

That is not all. Last year when the President announced his Precision Medicine Initiative, he introduced a young man whose cystic fibrosis had been cured by a new medicine, which he takes every day. While that only benefits some cystic fibrosis patients, the drugs that are used to cure that number of patients are the same kind of drugs they believe eventually will cure every patient with cystic fibrosis.

On that day, the President announced what he calls his Precision Medicine Initiative and that he wanted

to assemble 1 million human genomes so that if my doctor is prescribing for me a medicine by knowing what my genome is and what that medicine has done in other genomes, he can make a very specific sort of prescription, one that is more likely to help me and less likely ever to hurt me.

I attended the President's ceremony. I told him afterward that we would do our best to incorporate his Precision Medicine Initiative into our work in the Senate on our Biomedical Innovation Project.

The House was making good progress on its 21st Century Cures project. So I told the President: Mr. President, I can't imagine why we can't get a result in this Congress.

Since that time, the President has announced a cancer task force that Vice President BIDEN is leading to work to speed up treatments and cures for cancer. The House has passed its 21st Century Cures Act. In our committee in the Senate during the past year we have held 10 bipartisan hearings, including 6 on how to improve the electronic medical records systems that hospitals and doctors are using. We have had five bipartisan staff working groups that have met or held briefings more than 100 times in the last year, and the result of their work has been 50 bipartisan legislative proposals. As I said, every single one of those has support from Democrats as well as Republicans on the committee.

Today in our committee we debated and approved the first 7 of these bills, which included 12 of the 50 bipartisan proposals I just mentioned. We had an open process. Any Senator who wished to could have offered an amendment. The bills have had so much work on them that there weren't any amendments, but they were important pieces of work.

Our committee probably is the most diverse in the Senate. I know that is saying a lot, but if you look up and down the Democratic and Republican aisle, we span the whole spectrum. Last year we worked together, despite our differences of opinion, and produced a bill to fix No Child Left Behind. A lot of people thought we couldn't do that. I expect the same sort of bipartisan effort led by Senator MURRAY, the senior Democrat on her side, and me as chairman, to work well for us again.

We have a second markup of legislation scheduled for March 9 and a third for April 6. My expectation is that after we meet these 3 times and consider 50 legislative proposals, when we are finished it will all add up to bipartisan companion legislation to the House's 21st Century Cures legislation, and our legislation will include important elements of the President's Precision Medicine Initiative in his Cancer Moonshot.

The 21st Century Cures Act, the House bill, includes \$9.3 billion in so-called mandatory funding over 5 years, mostly for the National Institutes of

Health. Several of President Obama's other proposals in his new budget involve mandatory funding, and several Members of our committee have talked to me about mandatory funding for some of the work we need to do.

Here is my view about mandatory funding: I don't want to get the cart before the horse. When I was Governor of Tennessee and we needed a new road system, people would say to me: Are you going to raise the gas tax? I said we are not going to talk about the gas tax. There are lots of different ways to pay for the road. You can borrow the money. You can use discretionary money. You can raise the fuel tax. You can build a toll road. We are not going to talk about any of that. First, we are going to decide on what we want to do. What we decided to do was to have three big road programs to attract the auto industry suppliers to Tennessee, and it worked.

The decision we made after we decided what we wanted to do was in that case to raise the fuel tax three times because we didn't want any road debt. We have among the best roads in the country and zero road debt, and we have the auto industry. That worked out pretty well for us 30 years ago. I would like to apply the same sort of thinking here.

I don't want to talk about how we pay for something before I decide what the something is. Here is the something I am thinking about. I am thinking about something called the NIH—National Institutes of Health—Innovation Projects Fund; five areas, in addition to the things we normally fund and do that require extraordinary support, one-time support for ideas that have a start and a finish. In other words, they are not built into the budget for a long period of time.

The National Institutes of Health Director would have the authority to direct allocations of this fund to specific areas of importance. The five areas of importance I have in mind are helping the President launch his Precision Medicine Initiative and an American Young Investigators Corps.

We have heard from Dr. Collins, the head of NIH, and many others how important it is to have young investigators have enough money to give them the money to do their research. The BRAIN Initiative, all of us are staggered by the prospect of the personal anguish that Alzheimer's and other brain diseases will cause individuals and their families, and we are excited about the prospect of relieving that anguish. We know how much this is going to cost us—in the tens and tens of billions of dollars. If we can find a way to develop new understandings of neurological disorders, which help discourage Alzheimer's disease or prevent it or deal with it, it saves money as well as saving anguish. A Big Biothink Award—Dr. Collins had suggested this in some of his testimony. During this exciting time, let's let each of the 24 Institutes that fund grant awards at

the National Institutes of Health issue a challenge and let them identify the most promising big ideas in the country in their areas and fund it; for example, cancer, mental health. Let's see what comes out of this remarkable country of ours when we challenge them in that way. Then the Cancer Moonshot—now that the President and the Vice President are involved in this way, we want to make sure we do all we can to take advantage of curing some cancers as well as treating some cancers. There may be some aspects of that effort that have a start and a finish that could be part of what I call NIH Innovation Projects Fund.

I go into some detail about my Innovation Projects Fund proposal because we may be able to fund these needs in the regular appropriations process, but I am willing to consider using mandatory funding for these five areas because, No. 1, they have a start and a finish. They help jump-start. They are limited. In that sense, they are not subject to being appropriated forever, as appropriations often are. No. 2, I believe we should reduce other mandatory funding in order to use this mandatory funding. We should be about setting priorities in the Senate. I cannot think of a more important priority than biomedical research.

I mentioned we have 50 legislative proposals for which we have bipartisan support, but we do not have bipartisan agreement in the Senate committee on how to deal with any of these items that are paid for by mandatory funding, and neither do we have enough money within the jurisdiction of our committee to deal with it. So we will deal with both the Innovation Projects Fund and the mandatory funding—if that is what it turns out to be to pay for it—once the bill comes to the floor.

We have to decide first what programs we want and then how to pay for them. We should do that on the floor. We know we will have to have 60 votes to do it in that way that includes mandatory funding. We had some experience with that.

Last year we had some very difficult issues with the Elementary and Secondary Education Act. I had one of them that had to do with vouchers. That drives some people on the other side of the aisle up the wall. If I insisted on putting the scholarships for kids proposal that I had on the bill in the committee, the bill may never have gotten to the floor. Senator FRANKEN, on the other hand, had an important piece of legislation to him on discrimination, but if he had gotten that on the bill in the committee, it would never have gotten to the floor. We agreed, since we needed 60 votes to get a result—and a result is what we want and the American people expect us to get—that we would withhold our controversial amendments until the floor and see if we could develop bipartisan support on the floor to have at least 60 votes and get a result.

We followed, in our Education bill, the rule that the late Senator Kennedy

and Senator ENZI followed when they were the ranking members of this committee, and that was let's find the 80 percent we agree on and work on that first, and let's take the things we disagree on and do those later, but most important, just as Senator Kennedy did with Senator ENZI, just as the full Senate did last year on fixing No Child Left Behind, we kept in our mind getting a result.

I said on the floor many times last year that if all you want to do is make a speech or assert your point of view, you can stay home. You can get your own radio program. You don't have to travel as much. There is no need for you to come to the U.S. Senate. You can have your say here, but if you really want to do your job here, you can work with other people and see if we can get a result, especially when we are talking about issues that affect every American family in such an important way.

I am determined to get a result. I am delighted I have the opportunity on this committee to work with the Senator from Washington, Mrs. PATTY MURRAY. She is a strong Democrat. She is the leader of the Democratic caucus, but because of her leadership and her interest in getting a result, we were able to succeed last year. I believe, working with her and the other Members of our committee, we will be able to succeed this year.

The House of Representatives has done its work. It has passed the 21st Century Cures legislation. The President has made his proposals for precision medicine and for a cancer moonshot. He talked to all of us during his State of the Union Address in the last two sessions. We have worked for a year in our committee to produce 50 bipartisan legislative proposals that should go through the committee and be ready in early April to come to the floor.

The majority leader, Senator MCCONNELL, has said to me, and he has said to all of us, that even though this is a Presidential year and we have less time here, he is still looking for important ideas that benefit a large number of Americans that have bipartisan support and that the President will sign into law. I can't think of a single piece of legislation that the Senate could consider this year that fits that definition better than our companion legislation to the House of Representatives' 21st-Century Cures legislation.

I wish to say a word about the legislation we passed today. As I mentioned, these were all bipartisan pieces of legislation. The first one was introduced by Senator BENNET, Senator WARREN, Senator BURR, and Senator HATCH. It had to do with rare diseases such as cystic fibrosis.

This is what Senator SUSAN COLLINS of Maine said about that piece of legislation during the debate in our committee:

If you ask the parents of sons or daughters—primarily sons—with muscular dys-

trophy who suffer from Duchenne's, a very rare kind of muscular dystrophy, whether the bill we just approved is important, believe me they will tell you that it is.

We approved it unanimously, and it is ready for the Senate to consider.

Senator BURR, a Republican, and Senator FRANKEN, a Democrat, offered the FDA Device Accountability Act of 2015. This legislation would help move innovative medical devices ahead—such as artificial knees, insulin pumps for people with diabetes, stents for people who have suffered a heart attack—and new surgical tools that can get bogged down in the FDA. In other words, we want to keep the safe and effective gold standard, but we want to get these devices through the system as rapidly as we can, at the lowest cost we can, so people can afford and use them.

Senator BALDWIN and Senator COLLINS—Democrat and Republican—offered a bill called the Next Generation Researchers Act. We know that biomedical research is our best weapon against diseases, illness, and death, and we can't afford to lose young scientists to other countries, so this bill helped to attract young scientists by promoting opportunities at the National Institutes of Health.

This is what Senator COLLINS had to say about that:

If you asked Dr. Francis Collins—the head of NIH—whether the bill that Senator BALDWIN and I have sponsored is important to attracting and keeping young researchers, believe me he would say yes.

Senator KIRK, a Republican, Senator BENNET, a Democrat, along with Senator HATCH, Senator MURKOWSKI, Senator ISAKSON, and Senator COLLINS, introduced another piece of legislation, S. 800. This bill will help millions of Americans with disabilities, illnesses, and chronic conditions that require them to go to medical rehabilitation. Senator KIRK, a stroke victim, spoke movingly about the importance of that bill.

This morning, Senator COLLINS said:

If you ask stroke victims whether the rehabilitation bill that we passed is important, they would say yes.

There were four other bills we enacted. The one by Senator ISAKSON—we didn't enact it—we approved it by committee. Senator ISAKSON and Senator MURPHY had legislation on advancing research for neurological diseases.

This is what Senator COLLINS said about that one:

If you asked families that are struggling with neurological diseases such as Parkinson's, MS, or Alzheimer's, whether the bill that is on the agenda today is important, they would say yes.

Senator MURRAY offered the Preventing Superbugs and Protecting Patients Act, which is based on incidents that happened in her home State of Washington.

Finally, Senator MURRAY and I offered legislation to improve electronic medical records. Our committee did not set out to deal with electronic

medical records, but the more we got into our discussion—

The PRESIDING OFFICER. The Senator has used 20 minutes of his time.

Mr. ALEXANDER. We have used 20 minutes?

The PRESIDING OFFICER. Yes, sir. The Senator asked to be notified when he reached 20 minutes, and he has reached 20 minutes. The Senator still has the floor.

Mr. ALEXANDER. I thank the Presiding Officer very much. I will complete my remarks. I see the Senator from Florida is here.

Before I yield the floor, I wish to make a brief statement about the legislation Senator MURRAY and I introduced. The electronic medical record system in this country is in a ditch. Doctors and hospitals that use it have come to dread it.

The administration recognizes that there are problems. They haven't taken all of my advice about what to do about it, but I do give them credit. I thank Secretary Burwell, Dr. Karen DeSalvo, the National Coordinator for Health Information and Technology, and the head of CMS, Andy Slavitt, for working with our committee, Senator MURRAY and me, to try to find ways to make the electronic medical record system something that genuinely helps patients and that doctors look forward to instead of dreading. We have to do this because almost every advance we need to make in biomedical innovation depends upon this. Certainly the President's Precision Medicine Initiative absolutely depends upon our getting electronic medical records right. Perhaps the most important piece of legislation we approved today, among those seven pieces of legislation, was doing what we could do in legislation to get the electronic medical record system out of the ditch and onto a better track so that doctors use it rather than dread it. We are counting on the administration to continue to work with us to finish that job.

I believe this is good news for the American people. It means we are on a path, step by step, to do our part of the job.

There was some debate in our committee about whether the bills we were passing were important.

I ask unanimous consent that following my remarks, Senator COLLINS' comments, which remind us why each of the seven pieces of legislation is important, be printed in the RECORD.

There was some talk about the fact that we disagreed about the level of mandatory funding or whether to do it at all. We disagreed about that. We don't have bipartisan consensus on it, but we do have bipartisan consensus on 50 legislative proposals that we need to move ahead, and we will move ahead with them. Twelve of the 50 were done today, and the rest will be done in early March and early April.

My hope is that by early April, the Senate will be able to join the House of Representatives and President Obama

and say: Here is our contribution to the most important step we can take to make the quality of health better for virtually every American family by passing our companion legislation to 21st-century cures.

Mr. President, I also ask unanimous consent to have printed in the RECORD, following my remarks, the summary of each of the seven bills our committee approved today.

I thank the Presiding Officer, and I yield the floor.

There being no objection, the material was ordered to be printed in the RECORD, as follows:

#### SENATOR COLLINS REMARKS AT INNOVATION MARK-UP

Before I turn to the bill that I am honored to cosponsor with Senator Baldwin, which addresses a real problem of keeping our young researchers at NIH, I do want to respond to some of the earlier comments that have been made about the approach we are taking today.

First—I want to commend the Chairman and the Ranking Member for scheduling these important bills for markup by this committee.

If you ask the parents of sons and daughters—primarily sons—with muscular dystrophy who suffer from Duchenne's, a very rare kind of muscular dystrophy, whether the bill that we just approved is important, believe me they will tell you that it is.

If you ask stroke victims whether the rehabilitation bill that we passed is important, they would say yes. If you asked families that are struggling with neurological diseases such as Parkinson's, MS, or Alzheimer's, whether the bill that is on the agenda today is important, they would say yes.

If you asked Dr. Francis Collins—the head of NIH—whether the bill that Senator Baldwin and I have sponsored is important to attracting and keeping young researchers, believe me he would say yes.

And the fact is that this congress has come together and approved a much needed \$2 billion dollar funding increase for NIH—that is the largest increase for NIH's budget since 2003 we also approved, and I know this well because I was Chairman of it as part of the bipartisan Alzheimer's task force—nearly a 60% increase in Alzheimer's funding bringing us to \$936 million. Is it enough? Given that we spend billions caring for people with Alzheimer's—no.

The National Advisory Council on Alzheimer's says we need to spend \$2 billion per year. But to imply that a 60% increase in funding for Alzheimer's research is nothing; is just not accurate. There is widespread bipartisan support for biomedical research because there simply is no investment that promises greater returns for Americans than that investment.

It not only leads to discoveries and the developments of effective new treatments for families who are coping with these diseases but it also can have a dramatic impact on the budgets of families, states and the federal government. I am pleased with the progress we are making. I support the approach that the chairman has taken and I believe that the bills that we are considering at this markup and at the upcoming March 9 markup are important bills that will make a real difference to American families.

#### INNOVATION BILLS APPROVED TODAY BY THE SENATE HEALTH COMMITTEE

SENS. BENNET (D-COLO.), WARREN (D-MASS.), BURR (R-N.C.), AND HATCH (R-UTAH)—THE ADVANCING TARGETED THERAPIES FOR RARE DISEASES ACT OF 2015 (S. 2030)

Many rare diseases, like Cystic Fibrosis, have multiple genetic mutations, making it difficult for researchers to find enough patients with the same mutation for a clinical trial. This bill will help expand the successful treatment of people suffering from rare diseases like this.

SENS. BURR (R-N.C.) AND FRANKEN (D-MINN.)—THE FDA DEVICE ACCOUNTABILITY ACT OF 2015 (S. 1622)

These innovative medical devices, items like artificial knees, insulin pumps for people with diabetes, or stents for people who have suffered a heart attack, or new surgical tools to minimize scarring and reduce post-surgery complications, can get bogged down at the FDA. This bill reduces unnecessary regulations while maintaining the gold standard of safety and efficacy to keep us safe.

SENS. BALDWIN (D-WISC.) AND COLLINS (R-MAINE)—THE NEXT GENERATION RESEARCHERS ACT (S. 2014)

Biomedical research is our best weapon against disease, illness and death and we can't afford to lose young scientists to other countries or professions because they're frustrated by the lack of opportunity or funding—so this bill helps attract talented young scientists by promoting opportunities at the National Institutes of Health (NIH).

SENS. KIRK (R-ILL.), BENNET (D-COLO.), HATCH (R-UTAH), MURKOWSKI (R-ALASKA), ISAKSON (R-GA.), AND COLLINS (R-MAINE)—THE ENHANCING THE STATURE AND VISIBILITY OF MEDICAL REHABILITATION RESEARCH AT NIH ACT (S. 800)

This bill will help millions of Americans with disabilities, illnesses and chronic conditions that require them to go to medical rehabilitation and prevention. For example, this is important to people who have suffered from strokes, 800,000 happen every year in the U.S. according to the Centers for Disease Control. This bill ensures that the NIH is focusing on research into helping these people, and others who suffer from debilitating illnesses each year.

SENS. ISAKSON (R-GA.) AND MURPHY (D-CONN.)—THE ADVANCING RESEARCH FOR NEUROLOGICAL DISEASES ACT OF 2015 (S. 849)

This bill will help people with neurological diseases like Parkinson's, Multiple Sclerosis, and Alzheimer's by helping to advance our understanding of these diseases and helping researchers access data on these diseases in order to discover new therapies and cures.

SEN. MURRAY (D-WASH.)—THE PREVENTING SUPERBUGS AND PROTECTING PATIENTS ACT (S. 2503)

If you would ask patients and families or anyone who has undergone a procedure in a hospital or outpatient facility that involve reusable medical devices—and if you asked the people of the states of Washington and Illinois—whether they thought this legislation was important, they would say yes.

There was a tragic outbreak of antibiotic-resistant infections linked to contaminated scope devices in Sen. Murray's home state of Washington, where the devices were not being properly disinfected between operations, and this bill helps FDA in its work to ensure that reusable devices like these are safe for patients.

SENS. ALEXANDER (R-TENN.) AND MURRAY (D-WASH.)—THE IMPROVING HEALTH INFORMATION TECHNOLOGY ACT (S. 2511)

If you asked doctors, hospitals, or patients who want access to complete and useful patient records to both deliver care and understand more about their own health—and I think that's most Americans—whether they think this bill is important, they would say yes.

This bill takes several steps to get health records flowing between doctors, hospitals, and patients to help realize the promise of health information technology by turning these systems from something that doctors and hospitals dread into something that actually helps patients.

The PRESIDING OFFICER. The Senator from Florida.

Mr. NELSON. Mr. President, I ask unanimous consent to speak for up to 20 minutes.

The PRESIDING OFFICER. Without objection, it is so ordered.

### THE PRESIDENT'S SPACE PROGRAM BUDGET

Mr. NELSON. Mr. President, I come to the floor to speak about the President's proposal with regard to our space budget, the civilian space program, and NASA. Of course we have many other space programs, primarily national security, but now there is a commercial space program. We are seeing the burgeoning commercial space industry in the NASA budget. We are amazed by the rockets which can take the first stage—instead of throwing it away when it lands in the Atlantic Ocean after a launch from Cape Canaveral—under powered flight, even without parachutes, can come back and land on a specific spot, just as SpaceX did in its first stage in a launch about 2 months ago. We are seeing commercial space.

The fact that these things we carry around in our pockets that we loosely refer to as phones that know exactly where we are at any time is as a result of a constellation of satellites up there called GPS that triangulate and calculate exactly where we are. It is absolutely amazing to me that my latest gadgetry acquisition—a Fitbit—can so sensitively understand what my heart rate is at any moment, can measure distance, and gives me all kinds of information about the functioning of the human body.

Well, this didn't just accidentally appear. Where in the world did a lot of this come from? It came from the space program. I wish to talk about that, but first I want to underscore something. Other than its pioneering, for example, of increased investments in aeronautics, which is the first "A" in "NASA"—the National Aeronautics and Space Administration—there are other parts of the President's proposal that have been left behind in the visionary appropriations bill we passed back in the middle of December which has sent us on a course that we are going to Mars. We are preparing to go to Mars, and that is a long way. In

order to sustain human life and go all the way there—land, survive, reignite off the surface of Mars—and, by the way, I commend the Matt Damon movie "The Martian." The author of the book which the movie came from actually consulted with a number of folks, including one of my crewmates, on the propulsion, how to get to Mars a lot quicker. That propulsion uses magnets and plasma as its fuel and thrust to get us to Mars, and instead of the conventional 8 to 10 months, we could get there in as little as 39 days. But those are to-be-developed technologies.

Let me mention a couple of things we are developing. Folks often argue about the NASA budget, which back in the lunar days the Apollo Program was as much as 4 percent of the entire Federal budget. Now it is about one-half of 1 percent. In the process of divvying up the dollars out here, we pull and tug because people will ask: Why do we need to go to Mars? Why do we need to go to an asteroid in preparation to go to Mars? Why do we need a space program when we have so many needs here on Earth? That is a legitimate question. What is the legitimate answer? Do you appreciate the fact that we have MRIs and CT scans? MRIs—magnetic resonance imaging—and CT scans—computer-aided tomography—technologies that are used routinely today to help us so much in a diagnosis of what is wrong or what is right in our own human bodies and is part of this medical miracle that we know as modern medicine—they came straight out of the space program.

In the 1960s, NASA had to find a safe landing spot for the Apollo lunar lander amid all of that Moon surface and all of that dust. So what happened was the engineers at JPL out in California developed a digital scanning process using high-frequency sound waves, magnets, and computers. In addition to making six successful Moon landings, this technology was tweaked, adapted, improved, and it led to CT scans and MRIs.

How about robots in the use of modern medicine? How about robots in the use of the manufacturing process? Well, my colleagues will remember the one thing on the space shuttle that had the name of another country; it was the Canadarm. It was the robotic arm that was birthed in the cargo bay of the space shuttle. It was used to deploy, maneuver, and capture payloads. It has now been the forerunner of the neuroArm, a surgical device that has successfully performed dozens of tumor removals by robotic surgery.

Now, any of the males around here over the age of 50 ought to be concerned about prostate cancer. They have a robot named DA Vinci that is built in California, even though it is named after Leonardo da Vinci, and this robotic device, with a small incision—six times—can go in and, with some of this precise photography that was developed for these cameras,

robotically remove, in this case, the prostate cancer by removing the prostate without damaging the nerves and without cutting the human body open, which takes so much more time to heal, instead of just sticking six holes in. That came directly out of the space program. It is being used to develop an image-guided autonomous robot for use in the early detection of breast cancer.

Let me give my colleagues another idea. When we get on a modern airliner today and we look out the window and we look at that swept-back wing, what do we see out there on the tip of the wing? The wing doesn't just stop as it normally does; it curves up. This is called a winglet. The winglets have these upturned features. They save billions of dollars in fuel costs.

Now, with NASA technology at the Langley Research Center and now the tests conducted at the Dryden Flight Center—now named, after the first astronaut on the moon, the Armstrong Flight Center—this winglet technology was released to Boeing, and it has saved the airline industry more than 2 billion gallons of jet fuel, and it has saved more than \$4 billion in jet fuel costs and a reduction of almost 21.5 million tons of carbon dioxide emissions, just by the design of the wing. That technology came directly out of NASA.

Here is another example. All of this is coming back to this: Why go to space? Well, we go to space because our nature is that we are explorers and adventurers. We go there because we haven't been there. We go there to explore. Our nature is one of pioneers. The frontier is now not westward, as it was in the beginning of this country, but upward. So that is certainly a reason to have the space program, but let me tell my colleagues more of how it applies to our daily lives.

How about fortified baby formula? Early 1980s research on regenerative ecosystems led to a method of algae-based food supplements that provide the long-chain polysaturated fatty acids that support brain and eye development and function. So this led to a spinoff product called Formulaid, which was patented in 1996. It can now be found in over 90 percent of infant formula sold in the United States as well as those sold around the world.

I will give another example: image sensors—image sensors to enhance cell phone cameras. In the 1990s, a NASA team had been improving digital image sensors in order to miniaturize cameras on spacecraft while maintaining the scientific image quality. So this was spun off into commerce, and the company that commercialized the technology has shipped over 1 billion sensors for use in applications such as—now, does this sound familiar—digital cameras, camera phones, web cameras, automotive cameras. They are even developing something where you will swallow a pill; only it is not a pill. It is an ingestible camera for imaging the patient's gastrointestinal tract.