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Good afternoon. It's a pleasure to be here today to address Eaton Aerospace's customer support conference. I hope everyone has had a chance to enjoy some time on the beautiful Gulf Coast beaches and golf courses. I understand they just had a glancing blow from a tropical storm this hurricane season, unlike some previous years. So we hope the good weather continues!

Many of you know, this year is the 50th Anniversary of the FAA. I recently was asked to reflect on my tenure leading the agency by Aviation Week magazine. I told them that my proudest accomplishment is the same as every FAA employee past and present – a stellar and continuous record of safety improvements.

Today we are moving almost three-quarters of a billion people each year in the U.S. air transportation system – a 14-fold increase since 1958. Even with that dramatic hike, we are in the safest period of air travel in history, and aviation is by far the safest mode of transportation. That's a great legacy for the FAA.

As I said, I really appreciate the chance to address this conference because Eaton is one of our valued AIA member companies. Eaton seems to have a role in just about every type of platform you can think of in our industry – 787, A380, Citation, Black Hawk, CH-53K, V-22, F-35, F-16 and many others. And the components provided to these platforms are very important ones that show these companies put a lot of faith in Eaton. How about those locks that keep airliner doors from opening? Those seem pretty important to me! Not to mention the brake controls on landing gear. So we all are very appreciative of the job Eaton does.

When I talked to Aviation Week, they also asked me what I thought the greatest challenge was for the agency going forward. The answer is my topic today – implementing the NextGen air transportation system to replace the outdated technology still in use today.

But that challenge also holds such great opportunity that we cannot afford to fall short as an industry, and as a nation.

Today I'm going to talk about three things associated with NextGen – efficiency, environment and expenditures. The first two are easy. They are all about the great benefits that NextGen brings to the traveling public and the health of the planet. The last – funding – is always the toughest nut to crack in any government undertaking.

Let's start with efficiency. I mentioned the U.S. air travel figure earlier – about 763,000 passengers last year. Estimates put that figure at about a billion passengers by 2015, despite some dips in the forecast due to trying economic times. The strain this growth puts on the air transportation system would be considerable even if we had the latest equipment in use. But, unfortunately, our system is based on architecture that dates back to World War II.

This is where NextGen comes in. The system replaces radar with a satellite-based infrastructure.

Many of you are likely familiar with the cornerstone technology – ADS-B. It will dramatically cut down on delays and backups because it will make flying much more efficient.

NextGen boasts vast increases in the scope, volume and distribution of information. Weather delays will be reduced as better forecasts and new automation are implemented into the system, which will result in fewer limitations on airspace and restrictions on traffic.

Why are these upgrades so important? They will allow pilots and controllers to keep a much closer watch on the airspace collaboratively. Aircraft will now know where they are, as well as the locations and trajectories of other planes around them. This results in more point-to-point flying and reduces the time aircraft spend circling airports and languishing on taxiways. So NextGen will allow our system to absorb the large influx of air travelers expected in the coming years. More importantly, it improves efficiency and safety while reducing delays. I think we can all agree that sounds like a pretty good deal.

Now, I know Eaton does business all over the world. And we've already heard today from a representative of Turkish Airlines. This reminds us all that air transportation modernization is not a need only in the United States. SESAR's Joint Undertaking is making good progress in Europe.

And many other nations are planning, testing or using ADS-B technologies on some scale. One message I always try to make at events like this is that these systems that are developing around the world must be seamlessly interoperable with one another. It doesn't make much sense to spend the time, effort and investment in the modernization upgrades if they can't work together in a global network.

Let's talk about the environment. We all know the environmental impact of aviation has quickly become one of the most important issues we need to address. In some parts of the world critics are attacking aviation as one of the biggest sources of carbon emissions, even though as an industry we have a good track record.

Despite that record, we as an industry have vowed to do even better. There are a lot of ways we are going to do that. Next-generation aircraft like the 787 will provide huge gains in efficiency, much of it through the use of new composite materials. Engine manufacturers are doing their part as well, coming up with new technologies that save fuel and reduce carbon emissions. New technologies are also being applied to the current fleet.

For example, the 140 airlines using winglets on 737 and 757 aircraft already have saved some 1.2 billion gallons of fuel and cut carbon dioxide emissions by 11.5 million tons, and 777 wings are being modified to improve fuel efficiency

But a lot of the environmental gains in the coming years will be a direct result of NextGen. The benefits that I mentioned in efficiency involve the use of less fuel and fewer emissions. Aircraft that don't have to circle airports or sit on taxiways obviously burn less fuel! Next year we will have full deployment of a technology called En Route Automation Modernization, or ERAM. This ATC software, the backbone of NextGen capabilities, allows reduced en route separation that result in increased efficiencies.

Many new technology-enabled procedures are also resulting in environmental gains. Required Navigation Performance, known as RNP, and Continuous Descent Approaches, or CDA, have shown significantly decreased carbon emissions in trials.

It would be hard to overstate the environmental benefits inherent in NextGen. Estimates put the overall reduction of carbon emissions when the system is fully implemented at 12-15 percent.

Since environmental performance is the biggest challenge to worldwide aviation growth, it's clear that the efficiency gains and emissions reductions alone are worth the investment in NextGen.

Before we move on to the biggest challenge we face with NextGen, I wanted to mention an interesting fact about today's date. Back in 480 B.C. the famous Greek playwright Euripides was born. He was a prolific writer and the source of many famous quotes, including "Leave no stone unturned" and "Waste not fresh tears over old griefs."

So why do I mention Euripides today? One reason is because, like NextGen, the work of Euripides was extremely innovative for his time. He used strong female characters, intelligent slaves and satirized heroes of Greek

mythology. But I also bring him up because he coined a phrase that provides great insight – and hope – when applied to our efforts to modernize air transportation. He wrote “Nothing has more strength than dire necessity.” Looking at air travel trends and the need to make even greater environmental gains, I’d say we’re getting pretty close to dire necessity. So I take comfort that, according to Euripides, that necessity will only make our efforts stronger.

Which brings me to my final point about NextGen, and that is expenditure. Obviously, it takes a lot of money to design, develop and implement such a sweeping system. The good news is that one major piece of the infrastructure is well on its way to implementation. The FAA contracted with ITT to install and deploy the ground stations that not only link aircraft to ATC, but aircraft to aircraft. This is the first major implementation of ADS-B on a national basis, and it involves installing tracking equipment on almost 800 existing mobile phone towers and other facilities across the country.

ITT leads a group of 13 subcontractors working on design, development, site testing and deployment, and the initial capital expense is being funded by ITT. Testing is underway and deployment is scheduled to begin next year.

We estimate that NextGen requires at least \$300 million in additional funding for research and development each year. That is over and above the baseline FAA annual budget for operations. Funding of the system has been difficult to agree upon – the question of who pays! But it’s providing an opportunity for innovative thinking and consensus-building within the U.S. aviation community as we approach next year. Even as the details are worked out, everyone agrees that this system is vitally important and must not fall by the wayside. There is too much at stake to let that happen.

I’d like to leave you with this thought. Everyone in this audience has a stake in the success of NextGen, directly or indirectly.

We need to all become messengers spreading the word on the importance of this program – including adequate funding levels. Hopefully 50 years from now people will be marking the great success of the U.S. air transportation system, lauding its advocates and toasting the vision of NextGen.

Thank you.

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