Aviation Safety: Making a safe system even safer

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I am here today to discuss aviation safety. You have certainly heard that aviation is one of the safest means of transport. While we are proud of our safety record, we are acutely aware that each fatality in air travel is one too many and that we have to continue to work hard to further improve aviation safety. I'd like to begin by providing some figures on aviation safety, how it has improved and how it compares to other means of transportation. In the second part of my presentation I will present an overview of what ICAO is doing to further improve aviation safety.

How much has aviation safety improved? Last year in 2009, 2.3 billion passengers traveled in the air transportation system, with only 654 related fatalities. Just 60 years before, in 1949, 27 million passengers used air transport and 998 died. This represents an improvement of the safety level of more than 130 times over 60 years. What was arguably considered a dangerous way of traveling 60 years ago is now very safe. But what does it mean for you personally: To illustrate, I will take my personal case. As an international civil servant serving

190 different States, I travel extensively by air in all parts of the world. Every year, I spend approximately 300 hours in an airplane traveling a distance of 120 000 miles. I also use my car regularly but less than the average person, at least in North America, driving just 10,000 miles each year. My safety experts are telling me, that in spite of my extensive air travel and limited car travel, I have 12 to 15 times more chances to be involved in a fatal car accident than in a fatal aviation accident.

However there is no room for complacency. We need to make a safe system even safer and I can assure you that we are all committed to this goal. So, I'd like to mention some of the challenges that we are facing as we continue to look for ways to reduce the number of aviation accidents.

The first challenge is that the level of safety is not the same in all regions of the world. One of the ICAO safety objectives is to achieve a consistent level of safety throughout the world, by assuring that none of its seven regions has a fatal accident rate more than twice the world average. Unfortunately, this is an objective that we have not yet met. This is due in part to the varying operating conditions that exist in the various regions but it is also due to the different levels of effectiveness in the control and oversight of aviation activities by State

Authorities. ICAO has been conducting Audits of its 190 member States for more than 10 years to assess their capacity to properly oversee the aviation activities for which they are responsible. There is a direct correlation between the results of these audits and a State's level of aviation safety.

It is therefore important that strategies to improve safety be tailored to the maturity level and specific challenges that exist in each region. In plain language, one size does not fit all.

The less mature Countries and regions must therefore focus on the basics. They must put in place the physical, technical and regulatory infrastructure necessary to support civil aviation. This includes having properly qualified professional and more generally being able to make all the elements work effectively. We are well aware that it might be a daunting task, from both financial and technical aspects, especially for smaller States with limited aviation activity. This is the reason we are promoting regional organizations where participating States pool their resources to develop a harmonized regulatory framework and have access to the technical expertise required to properly oversee aviation activities within the region. We have seen impressive and rapid results in the level of safety of States which have made a vigorous effort to address the basic

requirements and we will continue to work with those States to facilitate the continued development of their safety capabilities.

The challenge for more mature States and Regions is to complete the transition to a pro-active safety system. Historically, the aviation community has focused its accident prevention efforts on analysis of accidents and serious incidents through detailed investigation of these events and development of measures to prevent their recurrence. In a pro-active system, often referred to as Safety Management, systemic hazards and risks are identified and assessed on a continuous basis and risk mitigating measures are put in place before accidents and incidents occur. In essence, it is similar to preventive medicine. We are building a healthier environment and life style. It does not totally preclude accidents but, as for healthy human beings, it both reduces the likelihood and severity of accidents.

To achieve this transition toward proactive safety, ICAO is mandating each of its member States to establish a State Safety Programme, requiring the establishment of safety targets, and data analysis systems to track performance in reaching these objectives. Similarly, ICAO is also requiring airlines, airports, air traffic control operators and aircraft maintenance organizations to establish a safety management system. While I won't delve into the details related to the management of safety at the State and industry levels, its most important

component is that it requires a continuous improvement loop during which the hazards and risks are continuously identified and assessed, mitigation strategies are developed and the effectiveness of these measures are continuously monitored and amended as necessary.

Identifying hazards, assessing risks and monitoring the effectiveness of mitigating measures all require detailed analysis of multiple types of information. While we continue to rely on data resulting from investigation of accidents and incidents, it is not sufficient to support an effective proactive safety management approach. Instead, the international aviation community is continually employing an extensive array of safety information to identify safety issues and predict their potential consequences before accidents occur. I would like to briefly discuss two of them: recorded flight data and reports provided by pilots, air traffic controller, mechanic and others related to safety concerns or observed hazards. The data from tens of thousands of flights are collected daily and analyzed to provide a unique view of how the system really works. A spike of irregularities when landing at a given airport might be the symptom of a systemic problem with a particular runway environment, standard operating procedures or training.

Safety reports submitted by front line personnel are also very important because they provide insight as to what can happen as a consequence of systemic deficiencies or inadvertent errors committed by the reporter. ICAO supports such reporting systems as awareness of these irregularities and minor errors is critical for aviation safety as it offers the possibility for us to act on a safety issue before an accident or a serious incident occurs. However, crewmembers and other front line personnel are unlikely to report if they risk being penalized for reporting their errors. The challenge that we are facing is to ensure that we strike the right balance between the need for people to be accountable for their actions and the requirement for efficient safety management. In practice it means that we must put in place a system which protects front line personnel when they report errors committed that do not have serious consequences and provided that they were not the result of reckless conduct, gross negligence or willful misconduct. A similar situation exists at the organizational level when considering the exchange of data that can enhance global safety. An airline, an airport or an air traffic control service provider may be hesitant to share safety data with other organizations, including its direct competitors, if it feels that that it would be detrimental to do so. To make sure that we have access to the aggregated data and information, we are working on developing a framework which would facilitate the sharing of safety information.

In that context, I am very pleased to announce that two days ago ICAO, the US Department of Transportation, and the Commission of the European Union and the International Air Transport Association (IATA) signed a Memorandum of Understanding which sets the stage for the establishment of a Global Safety Information Exchange. The agreement is open to all parties which are able to contribute safety information and it is a major step toward being able to use fully of all existing safety information and reach the full benefit of a true proactive aviation safety.

A second key element of a strong system of safety management is the ability to analyze all the safety information in a multi dimensional way. For instance, combining the trajectory information from flight data and radar recordings, reports from pilots and air traffic controllers with weather and terrain information at a given airport can help identify problems with a specific approach procedure which may not have been apparent using traditional analysis techniques. Modern computer technologies combined with the increased availability of safety information in digital format makes it possible.

Managing safety is not a simple endeavor. It requires effort, dedication, commitment, resources, skill and ingenuity but it is the only realistic way for the aviation community to maintain the continuous improvement in aviation safety that we have witnessed for decades. The effort is now well underway and be assured that we are all working hard to make a very safe aviation system even safer.