



**Address by  
the Secretary General of the  
International Civil Aviation Organization (ICAO),  
Dr. Fang Liu,  
to the ICAO 5th Global Aviation Training  
and TRAINAIR PLUS Symposium**

*(Doha, Qatar, 10 December 2018)*

1. Good morning ladies and gentlemen.
2. It is a great pleasure for me to welcome you to the first-ever *ICAO Global Aviation Training and TRAINAIR PLUS Symposium* to take place in the Middle East Region.
3. Please let me first thank:

*His Excellency Jassim Saif Ahmed Al Sulaiti,  
Minister of Transport and Communications*

*His Excellency Mr. Abdulla Nasser Turk Al- Subaey,  
President of the Civil Aviation Authority of Qatar*

*His Excellency Mr. Jabor Bin Hamad M. Al-Thani,  
Director General of the Qatar Aeronautical College*

*And of course all of the other dignitaries present this morning who have helped to realize this landmark aviation training event.*

4. I also wish to highlight the Qatar Aeronautical College's hard work and tremendous dedication in making this year's Symposium Programme so elaborate and appropriate to our active engagement.

5. Stepping back to appreciate the global backdrop for this event, all of the points which we will hear over the coming days should be assessed in the context of the transformative growth being experienced across the air transport sector today.
6. Commercial aviation has doubled in flight and passenger volumes once every fifteen years since this data began being analyzed in the mid-1970s, and air traffic continues to grow robustly today.
7. Last year for example, airlines worldwide carried more than 4.1 billion passengers on some 37 million flights.
8. And each and every day over 100,000 flights are managed by the aviation network, transporting over 10 million passengers and many thousands of tonnes of high value cargo to their global destinations.
9. At this time of year especially, as Western countries look forward to their Christmas gift-giving, air transport serves an incredibly valuable role by facilitating close to 90% of the vast e-commerce activity the holiday season generates.
10. Quite remarkably, aviation's e-commerce impact grew from 16 to 83 percent in just the six year period between 2010 and 2016.
11. Current forecasts indicate that by 2034, airlines will carry almost double the passengers and freight they currently do, supporting close to 100 million direct and indirect jobs in the process and some \$5.7 trillion U.S. dollars in economic activity.
12. This growth holds tremendous economic potential, a great deal of which can be leveraged by States toward their achievement of the United Nations' *2030 Agenda for Sustainable Development*.
13. *Agenda 2030* sets out 17 specific Sustainable Development Goals, 15 of which are directly aided by increased international air transport connectivity.
14. But all of this growth and potential can only be realized if the air transport industry of the future has sufficient numbers of the highly skilled professionals to fill our sector's ranks in terms of direct and indirect aviation careers.
15. And this draws our attention in turn to several key challenges now before us in terms of basic air industry viability and sustainability.

16. One of the most important of these is how to safely and efficiently manage the forecast doubling of flights across our network.
17. This is taking place even as we lose more and more managers and skilled technical staff to attrition factors, and as our global fleet continues to expand with newer and more advanced aircraft than ever before.
18. This poses risks not only to airlines and airports in terms of the pilots, maintenance personnel, controllers and other qualified staff they need on hand to handle the increased capacity being forecast, but also to Governments with respect to their Aviation Safety and Security oversight responsibilities under the Chicago Convention.
19. Simply put, the sustained increase in new aircraft orders, the expansion of world airports, and the continuous growth of air traffic will need to be guided and supported by skilled managerial and technical professionals.
20. But at the same time we are witnessing shortfalls in training capacity based on the total numbers of skilled personnel which are projected.
21. This implies that aviation training gaps may arise in many ICAO Regions.
22. Another important consideration in terms of our current human resources development, management, and planning priorities, is the rapid increase in the deployment of new technologies across every major industry sector.
23. With the introduction of artificial intelligence, virtual reality, and unmanned aircraft systems, to name just a few areas of intensive innovation today, we are also seeing some tremendous competition globally for qualified technical personnel.
24. This poses still further challenges for aviation in terms of attracting and retaining the personnel we need.
25. I mentioned attrition impacts earlier, and this is another area where we need to do more in terms of effective mitigation.

26. For example with many baby-boomers now reaching the age of retirement, companies and organizations should recall how on-the-job mentoring can play such an important role in the development of overall human performance when replacing one skilled generation of technical professionals with another.
27. You must take advantage of the knowledge and experience of these retiring staff before it is too late or more costly to do so.
28. ICAO and its Member States meanwhile will do their parts to ensure that these and other attrition impacts are thoroughly factored into all human resources development programmes and planning we undertake.
29. Cooperation is another important priority as we embark on these and other human resources development mitigation activities, whether in terms of our near- or long-term success.
30. The ability for instance of trainees to access courses and specialized equipment currently varies quite significantly from Region to Region.
31. And even online course solutions can be hampered by local technology and infrastructure challenges.
32. We must therefore work better together and be adept and responsive in seeking to overcome these obstacles.
33. This points to the need for increased coordination among States on required training needs and course offerings, whether globally, regionally or locally.
34. It also highlights the prioritization we must pursue toward establishing effective regional associations of aviation training organizations.
35. These associations can be instrumental in fostering the needed harmonization and standardization of aviation training at the Regional level, and represent a perfect opportunity for increased State-to-State coordination.

36. While on this topic, let me please acknowledge the regional representatives of several training organizations who are present here with us today, including those from the Association of African Aviation Training Organizations, the European Association of Aviation Training and Educational Organisations, and the North American, Central American and Caribbean Civil Aviation Training Centres Working Group.
37. I urge these regional groupings to continue in their efforts to help pave the way for increased standardization of course curricula, harmonization of instructor training, recognition of certificates, and of course their sharing of our limited resources.
38. ICAO very much supports these developments and I would encourage other parts of the world to emulate this success.
39. At this year's Symposium, we have decided to focus our attention on Aviation Training Intelligence.
40. This references how, in today's world of information abundance, data collected through various sources needs to be structured and managed in a coherent and functional way.
41. This is fundamentally important in order to generate the decision-useful information we refer to as 'intelligence'.
42. In the training domain, for example, it is critical to be able to identify the appropriate intelligence that will allow us to provide optimal aviation training solutions for both individuals and groups.
43. The ICAO TRAINAIR PLUS Programme, ICAO's network of training organizations and industry partners, remains key to this process.
44. Now composed of more than 100 Members, including 12 training organizations in the Middle East Region, TRAINAIR PLUS Members develop and deliver ICAO-harmonized Training Packages which fulfill their national and regional needs.
45. This highlights how the collection of useful training data to support training organizations' needs analyses; the customization of training; and post-training evaluations; is therefore paramount.
46. The TRAINAIR PLUS Programme is welcoming an increasing amount of universities into its network today, under a corporate partnership umbrella.

47. These education providers are key stakeholders for us, notably as they contribute immeasurably in preparing today's aviation professionals to meet tomorrow's industry needs.
48. This critical relationship will be explored in one of the panels of this Symposium.
49. Measuring training effectiveness will also be addressed in this year's event.
50. When developing new training programmes, for example, new behaviors, improved skills, and increased productivity should be expected as common sense outcomes.
51. It is therefore critical to be able to effectively measure training impacts based on data collection types, analyses and results which generate decision-making intelligence.
52. This in part is why ICAO will be discussing its Post Training Evaluation methodology during the next three days, and I would urge you to share your best practices in this regard given that training effectiveness remains a key objective of so much of what we strive for.
53. To support the implementation of training, the TRAINAIR PLUS Programme has built rosters of qualified training experts.
54. To-date, more than 1,200 course developers have been trained through the programme, which greatly enhances the standardization of Course Development among training centres.
55. Additionally, more than 150 instructors were trained last year alone, and these numbers are steadily increasing.
56. The training of Course Validators and post training evaluation experts is also well under way, in order to provide TRAINAIR PLUS Members and the training community at large with qualified and competent training experts to enhance their operations.
57. The development and implementation of competency-based training courses to support human resources capacity-building is another important priority for us.
58. Thanks to the active contribution of TRAINAIR PLUS Members, ICAO's training catalogue has expanded to include over 200 courses, while an additional 60 courses are currently under development.

59. Thanks in part to this greatly augmented course offering, we are able to train more professionals and currently expect to reach a new 4,000 trainee total for this year.
60. But while the number of training professionals has increased since the establishment of the ICAO Global Aviation Training office in 2014, there is still much work to be done collectively.
61. As we have all worked so hard together to develop a comprehensive ICAO Training Catalogue, we should work even harder now to deliver these courses cost-effectively and ensure their benefits are maximized across our global sector.
62. Whether we're discussing classroom training, online courses, or blended learning approaches, there is a wide array of courses which can be hosted in your States today.
63. A final point I'd address with you today concerns the fact that TRAINAIR PLUS recognition can come at quite a high cost for many of you here today, and that it must be effectively optimized in order to obtain a solid return on investment.
64. I would therefore urge you to survey the 2019 edition of the Catalogue and seek to select and deliver courses that will build upon the required competencies currently needed in your State and in your Region.
65. Delivering these courses will also enable Members to garner local and regional enrollments, not to mention improving revenues.
66. I can assure you that ICAO and its Global Aviation Training Office will support each and every Member in this regard, whether with respect to their course development or their implementation objectives.
67. Ladies and gentlemen, our actions in the near-term on all of these issues will greatly dictate how effectively we rise up to and address today's aviation human resources planning challenges.
68. Governments, industry and academia, all in attendance with us here, should not work in solos, but in alignment.

69. In doing so you can plan for the right amount of skilled resources, with the appropriate qualifications and competencies, to operate our expanding industry consistent with the admirable levels of safety, security and efficiency it is so renowned for today.
  
70. Please let me reiterate ICAO's great enthusiasm to work together on these objectives with all TRAINAIR PLUS Members, and I would take this opportunity to highlight once again the Qatar Aeronautical College, our hosts today, for their admirable commitments and achievements.
  
71. Thank you, and may I wish you all an engaging and production Symposium.