



**WORKING PAPER**

**COUNCIL — SPECIAL MODEL SESSION**

**Subject No. XX: Challenges relating to the projected shortages of skilled aviation personnel  
(or specific NGAP Themes as determined and conveyed)**

(Presented by the Dominican Republic)

**EXECUTIVE SUMMARY**

This paper intends to present the problematic behind the projected shortage of aviation professionals in the near future and the strategies intended to revalorize the civil aviation professions, increase the potential of developing countries new generation professionals and execute global and regional strategies to be implanted in cooperation with the local governments in the field of aviation academic formation and to reverse knowledge gap between nations.

**Action:** The Council is invited to:

- a) Note the developing world necessity of aviation educational infrastructure and awareness
- b) Remarks the enormous New Generation Aviation Professionals (NGAP) potential of expansion in the developing world and the already overloaded market in the developed nations.
- c) Request contracting States to cooperate regionally and locally to achieve the implementation of the proposed actions

*Financial implications:*

The actions are to be financed by a conjunction of actions engendered from the international community and the stakeholders in the aviation industry, as well as from the redeploying of resources already in existence as the ones from the ICAO Technical Cooperation Programme, that are valued (by 2013) at USD 137.2 million.

*References:*

Annual Report of the ICAO Council: 2013; Consolidated statement of continuing ICAO policies and associated practices related specifically to air navigation, resolutions A38-12 and A36-13; Convention on International Civil Aviation, Doc 7300; ICAO Civil Aviation Training Policy, EB 2010/40; The establishment of training as a stand-alone entity within the ICAO structure, A36-WP/190; United States Progress in Transitioning From AIS To AIM, A37-WP/121 TE/55; Economic development and regulation of airports and air navigation services, A36-WP/15 EC/1; Activités et Politique de Coopération Technique au Titre du Programme des Nations Unies pour le Développement (PNUD), A36-WP/48 EX/13; Preparatory Workshop for the Twelfth Air Navigation Conference, AN-Conf/12-WP/19.

## 1. INTRODUCTION

1.1 As it has been long time stated the world will soon be dealing with the dramatic shortage of aviation professionals due to the highly projected increase of air traffic, that is estimated to double by 2030, so in order to follow this growth the global civil aviation system needs to align its regional and state planning so that the global aviation industry can be provided with enough skilled personnel to allow this development to be sustainable. For this intensification in air traffic to be backed up with a workforce of skilled aviation professionals there are key areas that must be recognized so the problem can be globally solved. One of them is the fact that the regions that are experiencing the highest yearly growing percentage in air traffic capacity are the ones in the developing world; (*According to the Annual Report of the ICAO Council: 2013*) this are also the areas that have the greatest lack of academic institutions and training programs and infrastructure, making this hard for the people in this places to have access to the new generation professions in aviation. At the same time in the developed world the complications derived from the fact that the industry is losing its “charm” and the requirements to become a new generation aviation professional are day by day higher.

## 2. BACKGROUND

2.1 The Chicago Convention, signed the 7th day of December 1944 in Chicago, Illinois, was made to be the core ruling instrument of the international civil aviation; to put on execution this convention the ICAO was created and linked to the United Nations. From its beginning ICAO worked to accomplish its vision of a safe, secure and sustainable development of civil aviation through cooperation amongst its member States in a “*safe and orderly manner (...) on the basis of equality of opportunity (...)*”. Although the strategic objectives of the organisation are continuously evolving to meet the needs of a constantly changing system, as is the international civil aviation, there has not been directly included in the objectives the topics that reaffirms as a specifically matter the necessity of skilled aviation professionals.

2.2 Trying to ensure that “*enough qualified and competent aviation professionals are available to operate, manage and maintain the future international air transport system*” the Next Generation of Aviation Professionals (NGAP) was created, statistically is estimated that in the world there are around 1.5 to 2 million pilots and 700,000 to 1 million aviation maintenance technicians, but this numbers are not going to be sufficient in the next 20 years, because airlines are going to add an extra 25,000 new aircraft to the current 17,000 already in existence, meaning this that by 2026, the industry will need “*480,000 new technicians to maintain these aircraft and more than 350,000 pilots to fly them*”. This digits are provided by the NGAP and ICAO annual report were they calculated that global air traffic “*has doubled in size every 15 years since 1977*” and that “*between now and 2030, it is poised to double again*”. A big amount of current aviation professionals are already or soon to be eligible for retirement which means that there is a deficiency of younger persons interested in aviation professions or capable of acceding the field. Finally as is estimated the “*3.1 billion airline passengers carried in 2013 are expected to grow to about six billion by 2030, and the number of departures is forecast to grow from 32 million in 2013 to some 60 million in 2030.*”

## 3. CONSIDERATION OF ISSUE

### 3.1 Issues in the developing world

3.1.1 The existence of agendas such as the ICAO Technical Cooperation Programme, executed through the ICAO's Technical Cooperation Bureau (TCB) is intended to help the member states to implement the ICAO's Standards and Recommended Practices (SARPs), being this mainly a safety management program related to the aviation safety risks of the global air transportation system and activities, which means that there are no financial programs envisioned to help member states to improve their aviation instructive systems in a financial and pragmatic way. The creation of mechanisms such as the ICAO Civil Aviation Training Policy facilitates the unification of standards for the design and development of training courses and reinforces the work executed by the Next Generation of Aviation Professionals (NGAP) but it doesn't create an detailed planning to implement attentive solutions to the absence of adequate academic institutions in part of the developing world. One of the topics discussed in the 1<sup>st</sup> NGAP Symposium was the question of "*attracting and retaining the next generation of aviation professional*" given the fact that at this moment the aviation industry is demanding mostly for the people born in the 80s and 90s, meaning this that even if many of those *millenials* not seem "attracted" anymore toward aviation professions they still exist and they must be searched in places were these professions have not been yet "saturated".

### 3.2 Global issues

The main problem of the civil aviation system in the near future in a global scenery is the loss of attractiveness that the industry is facing, the need of tailoring the training platforms used by the aviation industries, so they can be economically sustainable, need to adapt the new coming professionals to these technologies that update incessantly with the new generation training requirements, there is also the concern of increasing cost of aviation studies. In a multilateral background the knowledge is not always being shared globally thus for some of the technical cooperation programs, having being funded primarily by the developed countries weren't used by them, since they financed their own technical cooperation projects. This can be a good sign that the money is used by those that aren't capable of employing their own resources, but at a level of cooperation this could also be a sign that there is a necessity of more standardization of incentives related to the aviation academic field.

## 4. FINANCIAL IMPLICATIONS

4.1 In the means of achieving a more reasonable cooperation and understanding between States in the field of educating the futures generations of aviation professionals the international community, as well as the stakeholders in the industry, will need to finance a conjunction of actions that are going to have a cost that can't be accurately identifiable without detecting the real potential of the under development workforce market that resides in potential NGAP students. Nonetheless the funding can be taken in part of other existing agendas, as is the ICAO Technical Cooperation Programme that was valued in 2013 at USD 137.2 million, and depending on the presence of the aviation industry in the developing countries, agreements can be reached to insert this local NGAP in the professional work field afterwards.

## 5. ACTION

### 5.1 Wide-rank strategies

5.1.2 At a primary level the arrangements have to be defined by the ICAO and its organs with a global approach, so that each of the States groups can start executing the sole universal strategy of mounting the academic structures (in the case of developing countries), and receive the adequate

intellectual cooperation (from the developed countries in aviation). The objective with this is to reach equally formation conditions in both sides of the world, whereas this action plans have to be also adjusted to the particular circumstances of every State member, and that's where the Planning and Implementation Regional Groups (PIRGs) plays its role. In this first stage ICAO's intermediation is vital, so the creation of academic institution in the aviation field can be reached at a local level in places where the potential exist but there is a lack of infrastructure and knowledge.

## 5.2 **Specifically actions**

5.2.1 As for the States individually a commitment has to be done, it's possible that not all of the members are willing, or capable to invest the necessary assets, so the regional blocks have to permit the instauration of effective regional academic institutions affordable and they have to revalorize the aviation professions so it can get revitalized and attract again the young originally interested in the field. For the situation of developed countries this last action can be also implemented, even though the aviation industry is continuously growing the desire of participating in such professions is not, a globally marketing campaign can be done without expending enormous amounts of money in the process, the implementation of social networks and news and trending around the subject of aviation can't always be related with the negative situations that sometimes arrive, as are the accidents, there has to be a consensus to get people interested in aviation formations and places where they can form without having to travel aboard. The best way to find the new generation of aviation professionals is using the same tools they use. Protective measures cannot be implemented by the member states.

## 6. **CONCLUSION**

- a) A sole universal strategy for the implementation of academic aviation institutions in places not developed in the area is to be launched by the ICAO at a global level according to the statistical information recollected.
- b) At a regional level the Planning and Implementation Regional Groups (PIRGs) have to adjust the plan to the particular circumstances of every state member in their zone.
- c) The PIRGs have to create efficient regional academic institution so all the respective state population can have the potential to become a NGAP.
- d) Aviation profession have to be revalorize by a globally marketing campaign using the NGAP tools (social medias, digital trending and networking).
- e) Protective measures cannot be implemented by member States.