MEETING THE DEMANDS OF THE AVIATION INDUSTRY WITH COOPERATION AND STRATEGIES

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It's no secret that the aviation industry will face a severe skills shortage in the years to come as the older generation retires, and the new generation struggles to keep up with the incredible growth of the aviation industry.

In anticipation of this challenge, in 2009, under the Next Generation of Aviation Professionals (NGAP) initiative, ICAO began working with several States and industry players to assist the aviation community and ensure that there will be enough qualified and competent aviation professionals to support the future demands of the international air transport system.

NGAP's mission statement is: *"To develop tools and provisions for ICAO Member States and the international civil aviation community that will assist them in developing strategies to attract, train, educate and retain the next generation of civil aviation professionals at the global and regional levels."*

In October 2016 the 39th ICAO Assembly recognized that more qualified aviation professionals would be needed to support the growing aviation needs and to ensure the safe operation of the air transport system. The resulting ICAO Assembly Resolution A39-29 on NGAP urges States and industry to work together to ensure the gaps are filled.

The International Air Transport Association (IATA) expects 7.2 billion passengers to travel in 2035, double the 3.8 billion air travelers in 2016. This growth, while positive, poses some challenges:

WHERE CAN WE FIND AND HOW CAN WE ATTRACT ENOUGH SPECIALISTS TO SUSTAIN THE FUTURE REQUIREMENTS OF OUR INDUSTRY?

For the first time, in their "Global Market Forecast", Airbus has added its view on the need for MRO (Maintenance, Repair and Overhaul) activities and forecasts for pilot and technician training. Based on their forecasts, in the next 20 years there will be a need for 562,300 new pilots, and for the first time, 540,600 technicians.

According to IATA, the aviation industry employs nearly 9 million people worldwide, a figure that includes a broad range of occupations, such as: pilots, cabin crew, air traffic controllers and airline managers, CAA Inspectors, freight and cargo supervisors, security officers, airport managers. And the list goes on.

DO WE NEED PROFESSIONALS IN ALL THESE FIELDS? HOW MANY PEOPLE? AND WHEN DO WE NEED THEM?

Taking into consideration the evolution of the aviation industry and the forecasts, to ensure there will be enough qualified and competent aviation specialists to sustain the future international air transport system, we have to attract new professionals to our field. But to establish how we attract, train and retain them, we first need to know what we want, based on what we need. We need a strategy,

and in order to build a realistic one, we need to answer some of these questions:

- Do we want to attract and train experienced professionals from other domains or new young people without any experience?
- Where do we find them? Where should we go to attract them (i.e. schools, universities)?
- For what professions do we want to attract new specialists (pilots, cabin crew, air traffic controllers, security personnel, CAA inspectors)?
- When do we need these professionals? In one year, 10-years?
- Why are young people not attracted to aviation (what are the main push-back factors)?

While we cannot solve all issues all at once, to identify the main push-back factors, we have to try to understand where to find the specialists in order to train and retain them, and we have to identify the challenges that come with possible solutions.

HUMAN RESOURCES IN AVIATION INDUSTRY ARE CURRENTLY COMPRISED OF THREE MAIN GROUPS:

1. **New recruits (without any experience)**
   They can be recruited from schools (vocational schools, universities) and other domains and, if we take in consideration the international aspect of aviation, States can recruit them from neighboring States. Recruiting new candidates could be a solution if we have a long-term strategy since attracting and training them requires a considerable time investment and poses some challenges:

- Only a small part of the curricula is recognized by the aviation system (authorities) even if they are coming from aviation specialized vocational schools or universities;
- They don't have practical experience; and
- If they are coming from neighboring countries, the education gained in their national educational systems may not be recognized (i.e. mathematics, physics), so they would have to start over from the beginning.

   All of these factors are a push-back for the many viable candidates who tend to choose other technical domains.
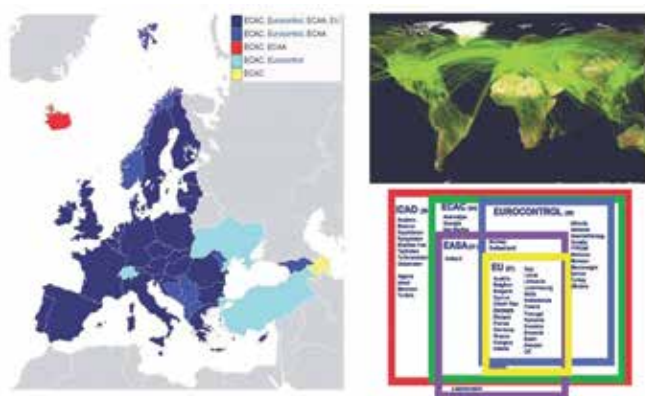
2. **Middle-age Workforce (experienced professionals)**
   They are overworked and constantly challenged to keep up with industry and regulatory changes, and often when we do have to train them, we don't know how to do it! Based on which regulation? For which area: national, international, regional (see Figure 1)?

3. **Experienced experts (on the verge of retirement)**
   Investing in training for personnel on the verge of retirement is not a long term solution; a better investment would be to train them to become trainers.

While there have been many discussions about what has caused the shortages, from an increased number of 'soft skill' degrees to a lack of awareness of aviation opportunities, it is the solution to the problem that the entire industry must focus on now.

To increase the number of new professionals entering the aviation industry, there is a need for a clear strategy based on the local needs of each State and regional and international cooperation between:

- **Regional and National Education entities (Vocational schools and universities):**
  - for mutual agreed teaching and training standards, and
  - for a mutual recognized syllabus adjusted to fulfill the industry requirements
- **Training Providers, National Educational System and the Civil Aviation Industry:**
  - to raise the quality of training through practical experience;
  - to develop new training;
  - to develop new training programmes (which are not presently regulated).
- **Training Providers, National Educational System and the Civil Aviation Regulators (NAA, FAA, EASA, RSOOs, etc):**
  - to find better solutions for mutual recognized training standards
- All of the aviation community players:
  - to promote the aviation industry in order to attract new and young people

Figure 1

LEGISLATION RELATED TO EDUCATION

CIVIL AVIATION FIELD

AVIATION LEGISLATION
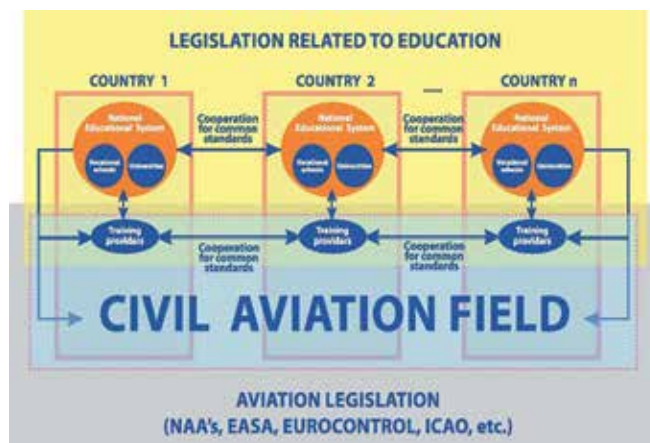(NAA's, EASA, EUROCONTROL, ICAO, etc.)

Figure 2

Taking these aspects into consideration and the fact that ICAO Assembly Resolution A39-29 highlights the need for developing forecasts, strategies, best practices, planning tools, and guidelines for engaging and cultivating the next generation of aviation professionals, in December 2016, a new working group was added to the ICAO NGAP Programme: The **NGAP Strategies and Planning Working Group**.

Establishing this working group is a necessity in linking the existing NGAP Working Group activities to the mandates given by ICAO's Member States, and in ensuring the new working group develops guidance that will assist the States in developing and implementing effective strategies to attract, educate, and retain the next generation of civil aviation professionals.

The project schedule will include and link together existing elements with new ones, beginning with forecasts; covering strategies; developing tools; sharing best practices; and finalizing guidance material – such as a template of an Action Plan that each State can adapt for its own needs.

To successfully achieve this objective and deliver a useful and realistic tool to States, this project needs not only the support of the NGAP team, but also the involvement and support of experts from industry, academia and training organizations.

Even if we have all come with different aircraft, now we're in the same airplane, travelling in the same direction.

TRAINING PROVIDERS

OTHER ORGANIZATIONS

INTERNATIONAL REGULATORS
NATIONAL AUTHORITIES
ENGINEERS

PILOTS
ATC

UNIVERSITIES

developing aviation and a safer way to fly.

None of us can do it alone! Let's start to work together!

Just as an airplane needs several components working together to be able to fly, the stakeholders from various aviation fields need to cooperate to be able to evolve for progress. All of us: Airlines, Airports, ATC, International Regulators, National Authorities, Academia and Training Organizations we're in the same airplane, travelling in the same direction: we are building a new generation of Aviation Professionals! ■