



## How to Attract the Young Generation to the Aviation Industry? A Review Based on International Civil Aviation Organization's NGAP Initiative

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### Abstract

Over the decades, aviation business has been growing rapidly. New destinations, new routes, new aircraft types, new rules, roles, and equipment continue to appear in this peculiar sector. Due to a rapid and sustainable growth, it has been one of the critical issues for all the parties in the aviation industry to find qualified human resources. As a result of such imminent pressures, the question on how to attract the young people to the aviation is high on the agenda of the aviation professionals in order to shape the future of aviation properly by being able to meet the needs of the industry. In this context, this paper examines the ICAO Next Generation of Aviation Professionals (NGAP) initiative that ICAO has been implementing since 2009 to attract young generations. This study focuses on 10 years of achievement of the ICAO initiative and attempts to highlight areas for improvement.

This study uses narrative technique and is based on reports published by NGAP between 2010 and 2015. This study also searches whether gradually growing efforts of ICAO will be enough to meet the needs of the aviation industry for the qualified human resources or not.

**Keywords:** Aviation, International Civil Aviation Organization, Human Resources, Next Generation of Aviation Professionals.

## Genç Nesilleri Havacılık Sektörüne Nasıl Çekeriz? Uluslararası Sivil Havacılık Örgütünün NGAP Girişimine Dair Bir İnceleme

### Öz

Havacılık sektörü son yıllarda hızlı bir büyüme kaydetmektedir. Her geçen gün, sektörde yeni destinasyonlar, yeni rotalar, yeni hava araçları, yeni kurallar, roller ve ekipmanlar ortaya çıkmaktadır. Bu hızlı ve sürdürülebilir büyüme nedeniyle, havacılık sektörüne nitelikli insan kaynağının nasıl çekileceği konusu tüm taraflar açısından kritik önem arz etmektedir. Bu türden baskılar, havacılık sektörünün geleceğini sektörün ihtiyaçları doğrultusunda şekillendirmek adına, genç nesillerin sektöre nasıl çekileceği mevzusunu

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havacılık profesyonellerinin ana gündem maddelerinden biri haline getirmektedir. Bu bağlamda bu çalışmada, Uluslararası Sivil Havacılık Örgütünün, gençleri sektöre çekmek üzere 2009 yılından bu yana uygulamakta olduğu Gelecek Nesil Havacılık Profesyonelleri Girişimi (NGAP) incelenmektedir. Çalışmada, NGAP girişiminin yıllık perspektifte başarıları ile geliştirilebilir yönlerinin belirlenmesi hedeflenmektedir. Çalışmada anlatı tekniği kullanılmakta ve NGAP tarafından 2010 ile 2015 yılları arasında yayımlanan raporlar baz alınmaktadır. Çalışmada ayrıca, Uluslararası Sivil Havacılık Örgütünün çabalarının, havacılık sektörünün ihtiyaç duyduğu nitelikli insan kaynaklarının yetiştirilmesi için yeterli olup olmadığı konusu irdelenmektedir.

**Anahtar kelimeler:** Havacılık, Uluslararası Sivil Havacılık Örgütü, İnsan Kaynakları, Gelecek Nesil Havacılık Profesyonelleri

## INTRODUCTION

As the aviation industry has been keeping on growing, throughout the whole world millions of people are affected because of this growth. According to a research made by Air Transport Action Group (ATAG), the aviation industry supports \$2.7 trillion (3.6%) of the world's gross domestic product (GDP) and the world's airlines carry over four billion passengers a year and nearly 62 million tonnes of freight. Providing these services generates 10.2 million direct jobs within the air transport industry and has \$704.4 billion direct GDP impact and \$637.8 billion indirect GDP impact. (ATAG, 2019).

The above-mentioned information gives a precise idea on the volume of the direct and indirect aviation business and the gorgeous employment necessity all around the world.

Boeing, one of the biggest aircraft manufacturers, publishes another important report. Services Market Outlook 2018-2037 Report that has been released by Boeing underlines that there is a need for 635,000 pilots, 622,000 technicians and 858,000-cabin crew worldwide in the following twenty years. (Services Market Outlook, 2018).

When the term aviation business is mentioned, it is for sure that the first three only jobs that come to the minds are pilot, technician and cabin crew jobs.

However, aviation business groups are not only limited with these three. It is possible to talk about a very wide variety of aviation related jobs including medical doctors, aviation psychologists, ground staff, passenger services, ticketing and reservation staff, loadmasters and many many more.

How will we find the right person for the right position? When should we find the right people for this position? How will we meet our need for qualified aviation staff? And such kind of questions are among the questions that have always been in the agenda of the aviation professionals.

Sometimes even the aviation companies cannot find answers to these questions on their own but need a hand above to lead, help and guide them.

Sometimes the governments are there to support the aviation industry with the legislation and government policies to promote recruitment of new aviation staff with tax reductions and financial support as well. In Turkey as a government legislation, in order to support aviation industry, the flight crew can only be applied up to 5% of tax on their salaries.

It is not enough only to recruit people for the aviation industry, but training and retaining them is as important as recruitment.

According to ICAO, in the next 20 years, airline will add 25,000 new aircraft to the current 17,000—strong commercial fleet. By 2026, 480,000 technicians will be needed to maintain these aircraft and over 350,000 pilots to fly them (ICAO, 2019).

### **1. The Role of ICAO in Aviation Industry & ICAO Next Generation of Aviation Professionals (NGAP) Initiative**

ICAO's primary role is to provide a set of standards, which will help regulate aviation across the world. It classifies the principles and techniques of international air navigation, as well as the planning and development of international air transport to ensure safety and security. It also oversees the US Government's International Group on International Aviation (IGIA). The international aviation standards were provided to the 191 member states of ICAO around the globe through a global forum in which the member states are expected to adopt and implement these standards. However, the International Civil Aviation Organization (ICAO) only provides the fundamental guidelines or SARPs (Standards and Recommended Practices). It is possible for each member states/countries to modify and adjust these regulations when necessary under ICAO's approval. Despite slight variations from different countries based on the actual implementation in national regulations, civil aviation standards and regulations are still harmonized all over the world. These local differences are then reported back to ICAO and published (ICAO, 2018).

Besides its mission on the international civil aviation regulations, ICAO has also been focusing on the programs in order to meet the human resources need of the aviation industry.

While doing this, ICAO has been establishing many committees and subgroups among the member states to develop joint programs to attract the young generations to the aviation industry.

In order to fulfill its leading mission in the aviation industry ICAO has been working closely with the Member States, many international and regional organizations, industry and academia in order to establish policies and ways to meet the need of the qualified human resources of the aviation industry. Since 2009, ICAO has been implementing the ICAO Next Generation of Aviation Professionals (NGAP) initiative to attract young generations to the aviation business.

ICAO established a task force in 2009 as a part of the NGAP initiative which mainly focused on:

- Inventory human resources,
- Identify and support initiatives to reach out the next generation,
- Find ways to harmonize training regulations,
- Develop regulatory frameworks that implement the use of modern training and following the technologies evolution and
- Define competencies for all aviation activities affecting safety.

While doing these, for ICAO the words “attract”, “train” and “retain” plays critical role. This task force prepared for the first ICAO NGAP symposium in order to form a synergy to cope with the difficulties to attract young generations to the aviation. In 2010, the first ICAO NGAP Symposium was arranged.

According to the ICAO sources in 2015, the Council President of the International Civil Aviation Organization, Dr. Olumuyiwa Benard Aliu, announced that the 36-State ICAO Council has agreed to elevate the status of the Organization's Next Generation of Aviation Professionals (NGAP) Task Force to full Program status.

The Council President of the ICAO Dr. Aliu underlined the significance of agreement and recognition with these words:

In reaching this decision, the Council has clearly recognized the importance of effective human resources planning and development, in order to ensure sufficient numbers of skilled aviation professionals to meet projected future needs, “The NGAP Task Force has consistently met or surpassed its objectives since it was first established in 2009, and its recognition now as a full Programme in ICAO will ensure it continues to receive the resources and acknowledgment befitting its importance to the safe and reliable future of our sector (ICAO, 2019).

NGAP vision statement particularly underlines a global aviation community that has “sufficient human resources” to support a safe, secure and sustainable air transportation

system. NGAP mission statement underlines “*To develop strategies, best practices, tools, standards and guidelines as applicable and to facilitate information sharing activities that assist the global aviation community in attracting, educating, and retaining the next generation of aviation professionals.*”

ICAO estimates that in the next 20 years, airline will add 25,000 new aircraft to the current 17,000—strong commercial fleet. By 2026, 4,80,000 technicians will be needed to maintain these aircraft and over 3.50,000 pilots to fly them.

Supporting 65.5 million jobs and \$2.7 trillion in global GDP, the air transport industry is a driver of the global economy. Over a third of all global trade by value is sent by air and aviation is a key component of global business.

The aviation industry supports \$2.7 trillion (3.6%) of the world's gross domestic product (GDP). The following section outlines from where this economic activity comes.

The world's airlines carry over four billion passengers a year and nearly 62 million tonnes of freight. Providing these services generates 10.2 million direct jobs within the air transport industry and contributes \$704.4 billion to global GDP.

Compared with the GDP contribution of other sectors, the global air transport industry is larger than both the automobile manufacturing sector and the pharmaceutical manufacturing industry. In fact, if air transport were a country, its GDP would rank it 20th in the world, similar to that of Switzerland or Argentina. These include employment and activities of suppliers to the air transport industry – for example, aviation fuel suppliers; construction companies that build airport facilities; suppliers of sub-components used in aircraft; manufacturers of goods sold in airport retail outlets; and a wide variety of activities in the business services sector (such as call centres, information technology and accountancy). These indirect activities contributed approximately \$637.8 billion to global GDP in 2016. The spending of those directly or indirectly employed in the air transport sector supports jobs in industries such as retail outlets, companies producing consumer goods and a range of service industries (such as banks and restaurants). Worldwide, roughly \$454 billion induced GDP impact globally is supported through employees in the air transport industry (whether direct or indirect) using their income to purchase goods and services for their own consumption. Conservative analysis suggests that aviation supports \$896.9 billion in economic activity within the tourism industry (ATAG, 2016).

Boeing has forecasted \$6.3 trillion worth of new airplane sales in the next 20 years, while the services market is expected to grow to \$8.8 trillion in the same time period. With nearly 25,000 commercial airplanes currently operating, the demand for maintenance, spare parts, and support services is an ideal growth market.

In an interview with the Chief, Implementation Air Navigation Bureau, Michiel Vreedenburgh, Mr. Vreedenburgh answers the question on some of the achievements of the NGAP programme as “Recognizing the importance of engaging the next generation in order to ensure a sustainable aviation system, the NGAP initiative was elevated to an ICAO Programme in 2015. ICAO leadership of this important programme was recognized by ICAO Member States with the adoption of an Assembly Resolution in 2016, A39-29: Next Generation of Aviation of Professionals, and with the incorporation of NGAP in the ICAO Global Aviation Safety and Global Air Navigation Plans, as well as the ICAO Business Plan. ICAO is expanding the NGAP Programme to cross all the Strategic Objectives of ICAO, and the Regional Offices are becoming actively involved in promotion and outreach.

NGAP has held three Global Symposia (March 2010 , December 2014 and November 2017); eight NGAP Regional Symposia (2011 to 2013), developed a 20-year forecast to assist States in quantifying human resources requirements (Doc 9956) and an Internship Toolkit; developed a Fundamentals of the Air Transport System course and an Aviation Training and Education Directory; collaborated with the International Pilot Training Association (IPTA) to create outreach videos, gather data on pathways, barriers, and best outreach practices for pilot careers; and issued regular NGAP Outreach publications to support and promote NGAP. Similarly, there have been excellent national and regional examples of NGAP at work, such as in Sri Lanka, Singapore and with the Young African Aviation Professionals Association, in Cameroon.

ICAO is actively promoting outreach activities to engage the next generation. ICAO provided support to Shaesta Waiz, Afghanistan's first female civilian pilot, as she undertook a solo round-the-world flight to raise awareness for greater global access to Science, Technology, Engineering and Math (STEM) education for women and youth. We continue to provide support and promote global outreach programmes, promote STEM education, and raise awareness of NGAP issues at international and regional events.

ICAO is also reaching out to other UN agencies to coordinate and collaborate on gender issues and the promotion of STEM education to youth, and in particular, young girls.

By working with our UN counterparts, we can capitalize on the strengths of each other's initiatives to jointly promote our common goals: empowering girls and women and ensuring adequate education for all youth. For us, these goals are paramount to creating the necessary foundation for our future workforce.”

Catalin Radu, Deputy Director, Aviation Safety, Air Navigation Bureau highlights how NGAP as a programme within ICAO could be improved to better reflect the needs and concerns of States and the aviation industry in general. Radu emphasizes how important it is to encourage the international civil aviation community to continuously support the ICAO NGAP Programme as a forum that facilitates the exchange of best practices and information about initiatives that are being implemented by industry, governments and academia. For Radu coordination and collaboration at a global level is necessary to promote this work. This includes continued support by our voluntary workforce, as well as with funding from stakeholders to support various initiatives.

Radu also underlines that as a key driver of this process, ICAO is determined to continue its work with stakeholders to intensify awareness of the impending shortages of personnel, and to promote cooperation and coordination within the global aviation community to attract, educate and retain the next generation of aviation professionals. It is also critical to reach out to academia and youth to promote aviation as a profession and to make education more accessible to students. The continued promotion of STEM education is critical to ensuring the necessary foundation for students to be successful in aviation (ICAO, 2018).

In 2013, three of aviation's leading global organizations, the International Civil Aviation Organization (ICAO), the International Air Transport Association (IATA), and the Airports Council International (ACI) have joined forces to support the development of career aviation professionals through a newly developed Young Aviation Professionals Programme.

These three leading global organizations invited interested candidates to apply for three Young Aviation Professionals Officer positions, located in Montréal, Canada, two Young Aviation Professional Officers to work in the technical field and one on economics and aero-political issues.

The selected Young Aviation Professional Officers were expected to contribute to work programmes related to aviation safety, security, environment and/or economics, focusing on inter-relationships between regulatory activities and the airline and airport industries.

The specific area of work and responsibilities to be assigned to each Young Aviation Professional would vary, taking into account the programme needs of ICAO, ACI and IATA, and the qualification profiles of the selectees.

The Young Aviation Professional Officers were given the opportunity to advance their knowledge and understanding of regulatory activities and of the airline and airport industries. Each Young Professional were accompanied throughout the programme by personal mentors from each partner organization. Furthermore, regular performance feedback both during and at the end of the assignments were provided. Upon successful conclusion of the Programme, the Young Aviation Professionals were retained on a roster for consideration for potential future employment opportunities with the partner organizations.

Each Young Aviation Professional Officer position were filled for a duration of twelve months, divided into three assignments of four-months' each at ICAO, IATA and ACI. As the financial support each Young Aviation Professional Officer were provided a fixed amount of \$4 000 per month, during their twelve-month assignment.

The Second ICAO NGAP Global Summit (NGAP/2) was convened at Shenzhen, China, from 12 to 14 December 2018. The Summit was intended to unite the aviation community, education and labour sectors to address strategies and actions for engaging, educating and retaining the next generation of aviation professionals, and to establish partnerships for the implementation of these actions.

In order to support the aviation industry, in the Second ICAO NGAP Global Summit the ICAO initiative to support young researchers and innovators and the newly established international organization of aviation Universities were announced.

## **2. General Evaluation and Concluding Remarks**

The aviation industry has been growing rapidly all around the world. This requires a significant need for the human resources in aviation business. Since 2009, ICAO started an initiative called ICAO Next Generation of Aviation Professionals (NGAP) to attract young generations to the aviation business. How the industry and academia could cooperate has been one of the significant questions to be answered. ICAO put a great effort with the Member States, many international and regional organizations, industry and academia in order to establish policies and ways to meet the need of the qualified human resources of the aviation industry.



Even if in 2013 three of aviation's leading global organizations, the International Civil Aviation Organization (ICAO), the International Air Transport Association (IATA), and the Airports Council International (ACI) have joined forces to support the development of career aviation professionals through a newly developed Young Aviation Professionals Programme, the number of the people they employed for the aviation industry has been quite less, only three people.

In order to emphasize the need for the human resources in the following twenty years, what ICAO has started in 2009 plays a critical role to increase the situational awareness.

In the Second ICAO NGAP Global Summit (NGAP/2) that was arranged in Shenzhen, China in 2018, in order to support the aviation industry, the ICAO initiative to support young researchers and innovators and the newly established international organization of aviation Universities were announced.

Universities and academia have been very important shareholders in order to attract the young generation to the aviation industry. At this point, another significant question has to be answered. Is it too late at the university age to attract the young generation to the aviation? From another point of view in order to shape the future of the aviation world and meet the need for human resources at what age, should the youngsters be approached in order to attract them to the aviation industry? Should ICAO reconsider the age group of young generation to attract to the aviation business? This is another question to be reviewed and depending on the answer to this question the policies, approaches and target groups of ICAO should be revised.

Even if ICAO has been the pioneer of such an important mission, a more proactive contribution of the shareholders of the aviation industry in terms of attracting, training and retaining the young generations to the aviation industry is needed. That's why more functional and focused groups of working committees are important.

On regular basis the progress report of these committees would play a significant role to shape the future of aviation with the new and young faces.

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