NGAP PROGRAMME
TRANSITIONING TO REGIONAL IMPLEMENTATION FOCUS

ICAO’s Next Generation of Aviation Professionals (NGAP) programme is progressing into Phase 2 to help States implement best practices for attracting and developing the large numbers of pilots, air traffic controllers, aircraft technicians, and other skilled individuals who will be needed to operate, manage, and maintain the growing air transport system. More than 300 participants from 58 States and 10 organizations, including hundreds of students, gathered in Montréal, Canada in December for the 2nd NGAP Symposium.

ICAO Council President Dr. Olumuyiwa Benard Aliu has stated: “International civil aviation’s greatest priorities over the coming decades virtually all derive from the projected doubling of our network’s capacity. The shortage of pilots, air traffic controllers, engineers, and mechanics we are facing around the world, as well as the need to accelerate training and certification for these aviation professionals and the new managers who will need to lead them, are key areas where ICAO’s leadership and action will be instrumental to the future viability and sustainability of our global network.”

Among the factors facing the aviation industry:

- Despite raising of the mandatory airline pilot retirement age to 65 (2007 in the U.S., 2011 in Europe) or even 67, as Japan has recently done, the industry is experiencing wholesale retirements of pilots of the post-World War II “baby boomer” generation.
- Aviation professions are increasingly not perceived as attractive enough to potential candidates. There is little awareness by the next generation of the types of aviation professions available to them. And there is significant competition with other industry sectors for skilled employees.
- Training capacity is insufficient to meet demand. There is a lack of accessibility to affordable training. And learning methodologies are not responsive to evolving learning styles.
- Some aviation disciplines lack harmonization of competencies.

The issues the ICAO NGAP programme is addressing are key factors to the long-term successful implementation of ICAO’s Global Aviation Safety Plan (GASP) and Global Air Navigation Plan (GANP) as the industry responds to air transport passenger and total flight growth. In the next 20 years, airlines worldwide are forecast to add 25,000 new aircraft to the current commercial fleet of 17,000. In the next decade alone, 480,000 new technicians will be needed to maintain aircraft and over 350,000 pilots to fly them.

Dr. Thomas Carney, Professor of Aviation Technology at Purdue University in Indiana, U.S., and Chair of the ICAO NGAP Task Force, described the NGAP vision as “a global aviation community that has sufficient competent human resources to support a safe, secure, and sustainable air transportation system.” To achieve that vision, the NGAP mission is “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, training, educating, and retaining the next generation of aviation professionals.”

STRATEGY, TOOLS & DATA

ICAO established the Next Generation of Aviation Professionals Task Force in 2009, consisting of representatives from industry, academia, training providers, regulatory bodies, and international organizations. “During Phase 1 of the NGAP programme,” stated Nancy Graham, Director of ICAO’s Air Navigation Bureau (who retired recently), “we raised awareness and developed competency-based training (CBT) provisions for air traffic controllers (ATCOs) and air traffic safety electronics personnel (ATSEPs).”

“In Phase 2, the NGAP programme will roll-out new provisions to support implementation with guidance manuals and regional workshops, and create tools to support States to implement human capital best practices.”

Graham announced that ATCO and ATSEP CBT regional workshops are planned from the second half of 2015 to 2017, and will include material designed for regulators, service provider senior management, course designers, and instructors (classroom and on the job). The publication of new ATCO and ATSEP training manuals is expected this year.

Planned NGAP outreach efforts and tools include:

- NGAP best practices database on the web
- Continued NGAP communication
- A web-based NGAP implementation kit (I-Kit)
- An aviation tertiary education institutions database (ATED) on the web - available at http://www.icao.int/Training/atedti/Pages/Default.aspx
On the final day of the Symposium, a proposal from the NGAP Task Force Research Working Group to develop an “NGAP Index” was presented. William Agius, Deputy Head, Centre for Aviation, Zurich University of Applied Sciences, Switzerland explained, “The availability of trained personnel is not evenly distributed across the globe, nor is demand, which is difficult to predict.”

The NGAP Index incorporates a compilation of relevant data for aviation industry human resources planning, including economics, attractiveness to candidates, and people resources. The index is a component of the transition of the NGAP programme from a global initiative to a regional and national level. The plan is to evolve the concept into an NGAP dashboard on the ICAO iSTARS applications platform later in 2015, and provide the first reports to participating States in 2016.

ICAO Council Representative for the United Arab Emirates (UAE), Captain Aysha Alhameli, announced a new collaborative Aviation Discovery Programme (ADP) at the event, coordinated between the U.S. FAA Academy, Western Michigan University (WMU), the École nationale de l’aviation civile (ENAC) in France, and the Association of African Aviation Training Organizations (AATO). Through an information campaign, the ADP’s objective is to excite and motivate youth throughout African regions, facilitated by AATO. The ADP team has agreed on a roadmap and will submit a progress report to the NGAP Task Force at its next meeting.

Capt. Alhameli said, “The NGAP initiative is of strategic importance for global aviation in order to insure that there are global mechanisms in place to attract young qualified and competent aviation professionals. The issues presented at the symposium are key to the long-term sustainable success of the aviation industry.”

NEW APPROACHES TO LEARNING
Ruichun Lin, Assistant Professor at the Civil Aviation Flight University of China, noted that between now and 2040, degree-oriented learning will transition to lifelong learning, incorporating competency-based learning, on-the-job training, computer-aided learning, and virtual reality-based training. He predicted that the globalization trend will include student and professor exchanges and mutual recognition of academic degrees and certifications.

Lin cautioned, however, that with the technology and information explosion, “too much choice leads to riskier decisions” and unreliable information sources. “The current working experiences are not applicable for the new working environment.”

Dr. Suzanne Kearns, Associate Professor at the University of Western Ontario, Canada, called social media websites such as Facebook, Twitter, YouTube, and others “weapons of mass distraction.” She said future aviation training must customize content through adaptive curricula. Instead of the traditional classroom “sage on the stage,” the new training dynamic is a “guide on the side.” Learning will be more interactive and scenario-based, and “learners will search out answers rather than passively listen.”

PASSION FOR AVIATION
The hundreds of students who attended from around the world were inspired by remarks from Julie Payette, who in 1999 was the first Canadian astronaut staying aboard the International Space Station (ISS) and is now Director of the Science Centre of Montréal. She shared her experiences and vision on attracting and retaining NGAPs of all ages, nationalities, gender, race, and socio-economic backgrounds into the Science, Technology,
‘speed networking’ session during the Symposium, consisting of short interviews with individual experts, enabled young professionals to establish closer contact with industry experts, as well as to dispel any doubts about their career paths.

Immediately after the NGAP Symposium and just a couple of days prior to the 70th Anniversary of the Chicago Convention, ICAO also held the first Model Council Session for 36 university-level students. The aspiring young professionals had the unprecedented opportunity to sit in the seats of delegates of their countries and discuss ways to achieve sustainable development of aviation and to attract young professionals.

The Model Council meeting for the future aviation experts is based on similar projects organized by the United Nations. The selected participants discussed actions to be taken to more effectively promote the field of aviation – at national, regional, and global levels. All 36 students prepared working papers and three were selected under voting procedure for presentation by their authors, followed by comment and suggestions. Proposals included creating better online tools for communication about opportunities in the aviation industry, the promotion of women in aviation, directing attention to the celebrations of events connected to aviation to increase the interest of a broader group of people toward careers in the airline industry, and the development of aviation education centers.

“Interest in aviation must be carefully cultivated and nurtured,” commented Brett Levanto, Director of Operations at the U.S. firm that manages the Aviation Technician Education Council (ATEC). “Their passion can grow once they come through the door, but to get these workers inside will take effort. Go to schools. Bring students to your facilities. Teach kids about lift and drag. You can’t start too early. Show them the runway and let them learn to take off.”

More information on NGAP can be found at http://www.icao.int/safety/ngap/Pages/default.aspx. Contact e-mail: ngap@icao.int