International Civil Aviation Organization

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ASSEMBLY — 40TH SESSION

EXECUTIVE COMMISSION

Agenda Item 25: ICAO Civil Aviation Training and Capacity Building

EXPERIMENTAL DRONE BUILDERS AND INNOVATION LABS IN RWANDA

(Presented by Rwanda)

EXECUTIVE SUMMARY

The continuity of Aviation rests in the investments made to the Next Generation of (Young) Aviation Professionals. The promotion and launching of qualified personnel to confidently invent and construct models for the efficiency and effectiveness of the human race are linked solely in our support and positive relationship with our Next Generation of Aviation Professionals (NGAP) partners. The aviation and aerospace industry is facing an unescapable challenge with other fast growing technological advances in the race for securing professionals in their industries, and in some instances with more ease of acceptance than our aviation industry.

This paper outlines the journey and achievements by Innovation Labs based in Kigali, Rwanda, and the collaboration with the Rwanda Civil Aviation Authority and other entities.

Strategic Objectives:	This working paper relates to Strategic Objectives Safety and Air Navigation Capacity and Efficiency
Financial implications:	Under Participating States
References:	A39-WP/33 The ICAO *Next Generation of Aviation Professionals (NGAP) Programme*

1. INTRODUCTION

1.1 The International Civil Aviation Organization (ICAO) launched its Next Generation of Aviation Professionals (NGAP) Programme to ensure the survivability of growth and advances in human resources and technology in aviation by providing a means to invite and retain competent and qualified aviation professional. This position by ICAO provides a framework for aviation professionals focused on UAS/Drone technology.

2. INNOVATION LABS

2.1 Through several month programmes, such as fellowships, bootcamps, and Hackathons, innovators are equipped with instructional techniques required to build and test prototypes.

2.2 Innovation Labs programmes prepare the youth for tomorrow's jobs through a demand-driven Information and Communication Technology (ICT) curriculum and then match graduates directly with ICT employers (Source: FAO.org). Their vision is to create opportunities for various groups that include among others scientists, technologists and entrepreneurs that are linked to the United Nations (UN) Global Goals for Sustainable Development.

3. FLYING ROBOTS FELLOWSHIP

3.1 In 2019, Innovation Labs launched the Flying Robots Fellowship. In Rwanda, “Flying Robots” known as UAS/Drones are currently used in agriculture, health, mining and construction. The Flying Robots Fellowship is a five-week hackathon programme through which selected candidates have the opportunity to gain hands-on training in the design, simulation, operation, and life-cycle support of flying robots.

3.2 Upon successful completion of the Hackathon, graduates are offered the opportunity to pursue further aerospace-related professional training, through some of our industry partners (Source: ndangira.net).

4. ACHIEVEMENTS

4.1 Innovation Labs have created job opportunities for more than 100 youths. After two successful ‘Flying Robots’ fellowships, innovators were empowered to build, programme and test Quadcopters.

4.2 Innovation Labs have attracted both national and international partners through its strategies. Innovation Labs provides a platform for innovators such as University and College students to nurture ideas into realization. Innovators develop their capacity and knowledge through mentorship from experts at Innovation Labs.

5. ADDRESSING SUSTAINABILITY CHALLENGES

5.1 "**Creating opportunities out of big questions**" – This is the key idea of Innovation Labs' incubation programmes. To achieve this, the Labs takes three steps to grow start-ups:

1) First Step: Engage university and college students through outreach programs to participate in the fellowships.

2) Second Step: Match right person with right expertise. Innovation Labs identifies and selects candidates with the right qualifications required to successfully complete planned projects.

3) Third Step: To attract various partnerships with national and international institutions through its mission and vision strategies:

    a) learning through subject matter Research Fellowships conducted by the project in a definitive period;
    b) building through Collaborations with both the private and public sector stakeholders and organizing Competitions like hackathons; and
    c) deploy high impact solutions.

6. CONCLUSION

6.1 Rwanda will continue to work with organizations, such as Innovation Labs, and support Innovation on Unmanned Aircraft Systems. Drone Technology is increasingly creating more opportunities and greatly improving the quality of life and, therefore, Member States to continuously embrace the technology, invest in initiatives that will promote and support NGAP.

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