



ICAO

INTERNATIONAL CIVIL AVIATION ORGANIZATION

**SEVENTH MEETING OF THE DIRECTORS GENERAL OF CIVIL AVIATION
ADMINISTRATION OF THE AFI REGION (AFI-DGCA/7)**

20 July 2018, Niamey, Niger.

Agenda Item 10.1: PROJECT LOON – MOBILE CELL PHONE TOWERS IN THE SKY

(Presented by the CANSO)

SUMMARY
<p>This paper presents an update on Project Loon, a heavy free unmanned balloon network which intends to bring the internet to underserved parts of the world. It will outline recent achievements and plans forward. It will also outline the General Assembly’s endorsement of this project which supports the United Nations Sustainable Development Goals and ICAO’s “No Country Left Behind” Initiative.</p>
<p>REFERENCE(S):</p> <ul style="list-style-type: none">- United Nations Sustainable Development Goals;- ICAO’s “No Country Left Behind” Initiative.
<p>Related ICAO Strategic Objective(s): Safety</p>

1. INTRODUCTION:

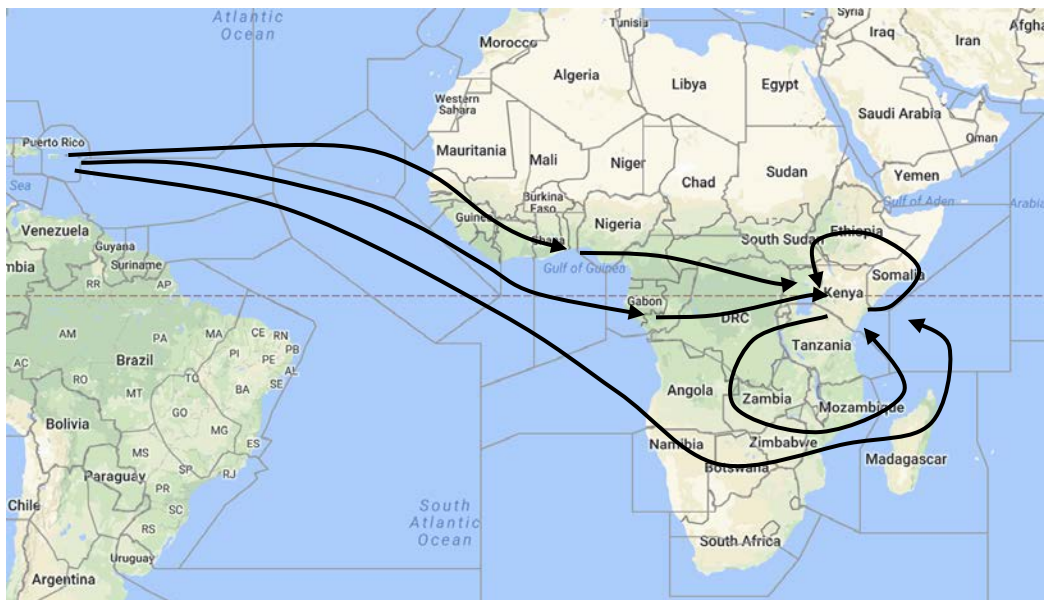
- 1.1.** Supporting the United Nations Sustainable Development Goals (9 and 17), Project Loon seeks to enable education, investment, remote medical information and emergency services by expanding the internet capability to areas of the world which are currently underserved. Project Loon is a member of Civil Air Navigation Service Organization (CANSO) to enable partnership with ANSPs worldwide and support ICAO’s “No Country Left Behind” Initiative.

2. DISCUSSION:

Progress to Date

- 2.1 Loon began in 2013, and continues its research and development of the internet communications payload, now demonstrating the balloon system's ability to operate in a geographic region of interest.

- 2.2 Project Loon held a Briefing Workshop from 26th to 27th June 2018 in Nairobi, Kenya for selected key stakeholders including high level officers from the Eastern African Community (EAC) States and EAC. The objective of the briefing was to share with the participants the critical developmental and operational milestones of Loon Project and secure the necessary authorizations and partnerships for Loon operations, not only in Kenya but in the wider EAC region. The participants at the briefing recognized the importance of project Loon in providing internet to remote areas and appreciated the humanitarian service offered by Project Loon in providing internet to Peru and Puerto Rico during their devastating natural disasters. The briefing appealed to the EAC States to consider signing with Loon Letters of Agreement for overflight and landing of balloons in order to enable provision or enhancement of internet access in underserved areas of EAC.
- 2.3 The balloons are now robust, remaining aloft well beyond the targeted 100 days, and are launched from the United States through a custom developed auto-launcher, allowing rapid multiple launches. Loon fully complies with ICAO standards for heavy unmanned free balloons, and has gone beyond the safety requirements by adding several layers of safety equipment (including ADS-B) onboard the payload.
- 2.4 During the demonstration/validation phase, Loon combined publicly available sources of wind data with their own extensive flight data (over 1500 balloons, 850,000 flight hours and 29 million flight kilometers), using its substantial computer resources to create models and simulations that enable much more efficient balloon navigation.
- 2.5 With a combination of this data and the technology used in the balloon itself, Loon balloons are able to change altitude to “catch” the winds moving at the speed and direction necessary to a given service area. However, guidance remains subject to wind patterns, and in order to serve its initial target area of Kenya and the surrounding countries, the below overflight path/s are necessary.



Next Steps and Reassurance

- 2.6 Loon has a Safety Management Plan (SMP) and formalized its operations center known as Loon Mission Control (LMC), using best practices from around the world.

Loon is actively seeking working relationships, as outlined in the ICAO State Letter (AN13/22.1-16/42), with key Civil Aviation Authorities and Air Navigation Service providers for overflight Letters of Agreement (LOAs), as well as possible landing sites.

- 2.7 It is important to note that Project Loon balloons do not carry ANY military devices, nor cameras or surveillance (apart from ADS-B) capability. Project Loon intends to partner with local interested telecommunications companies, to act as an extension of their network. Project Loon is fully committed to being a good aviation citizen.
- 2.8 Loon remains grateful to the many States, throughout Africa and the world, which have been supporting Project Loon, since inception, and particularly thankful to Kenya Nigeria, Botswana, Cabo Verde and Seychelles who signed agreements with Loon for overflight and landing of balloons. In order to continue to progress to operational internet service to underserved areas, overflight and landing agreements are key.

3 ACTION BY THE MEETING

The meeting is invited to:

- 3.1 note the intent of Project Loon to support the United Nations Sustainable Development Goals and ICAO's "No Country Left Behind" Initiative as well as the ICAO Secretary General's State Letter (AN13/22.1-16/42),
- 3.2 note Loon's progress, work with Project Loon by entering into overflight and landing agreements so that Loon can expand its global and regional testing and initial service provision, and
- 3.3 note the benefit that Loon will bring to underserved parts of the world, be an advocate for further understanding with associated Ministries within your State.

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