ICAO

AFI PLANNING AND IMPLEMENTATION REGIONAL GROUP
TWENTY FIRST MEETING (APIRG/21)
Nairobi, Kenya (09 - 11 October 2017)

Agenda Item 9:   Any other business

PROJECT LOON – FLOATING CELL PHONE TOWERS IN THE SKY

(Presented by CANSO)

SUMMARY
This paper presents an update on Project Loon, a high-altitude, heavy, free unmanned balloon network that aims to bring the internet to underserved parts of the world. It also outlines the ICAO General Assembly's endorsement of this project, which supports ICAO's No Country Left Behind Initiative and is also consistent with the United Nations Sustainable Development Goals. It outlines recent achievements and plans. Project Loon is grateful for ICAO States continuous support.   Action by the meeting is at **paragraph 4.**
REFERENCES:
Related ICAO Strategic Objective(s):   **A** – *Safety,*   **B** – *Air Navigation Capacity and Efficiency,*   **D** – *Economic Development of Air Transport, and*   **E** – *Environmental Protection.*

1.   **INTRODUCTION**

1.1   Project Loon seeks to enable education, investment, remote medical information and emergency services by expanding the telecommunications and internet capability of local service providers to areas of the world which are currently underserved. Through the use of effective Safety Management, Project Loon has safely flown over 1200 balloons, hundreds of thousands of flight hours, and millions of flight kilometres testing its systems.

1.2   Project Loon was endorsed by the ICAO General Assembly and continues to expand its network of agreements with ICAO States, formalizing safe and efficient operational procedures. Project Loon has formalized operational procedures with States on every continent except Antarctica.

1.3   Project Loon recently announced a significant milestone regarding more efficient navigation and improved automated steering algorithms. To that end, with the cooperation of Ecuador's CAA and ANSP, Project Loon navigated two Loon balloons, floating at FL 600, to the

Galápagos Islands where the ICAO Council members could observe them while airborne during their recent exploratory visit to Ecuador.

1.4   Recently, in cooperation with local service providers, Project Loon began providing telecommunications and internet services to tens of thousands of Peruvian citizens whose capabilities were suspended due to ground infrastructure damage from massive flooding. Loon is grateful to the Caribbean, Central American and South American countries that allowed increased overflights to enable this humanitarian assistance.

2.   DISCUSSION

Progress to Date

2.1   Project Loon was initiated in 2013 and during its early phase, it focused on the balloon itself and safety of flight. Through effective use of Safety Management, Loon improved the balloon design, manufacturing and launch procedures. The balloons are now very robust, often remaining aloft well beyond the targeted 100 days, launched through a custom developed auto-launcher, allowing rapid launches. Practicing Safety Management, Loon goes well beyond just complying with ICAO standards, adding in several additional layers of safety equipment (including ADS-B) on-board the balloon itself and the communications payload.

2.2   Unique to Loon, the mission control system combines publicly available sources of wind information with its own extensive flight data using its massive computing power to create models and simulations that enable much more efficient balloon navigation. Continuing to improve safety, as well as navigation, this has allowed the balloons to remain in the general geographic area that requires service. This important navigation improvement will allow Loon to focus its resources on those with the most need.

2.3   Today Project Loon launches (in accordance with FAA direction) only from Puerto Rico, floating via a "float path." Loon uses a standardized template for its operational procedures, yet each Letter of Agreement is customized to the unique needs of each State to ensure safe flight. In every case, the operational procedures provide operational notification as each State wishes, with the timing and frequency desired prior to entering a fight information region. And, in conjunction with the State's wishes, updates are continually provided.

Reassurance

2.4   It is important to remember that Project Loon balloons are never equipped with any military devices, do not carry cameras, and are not capable of surveillance (apart from ADS-B). Project Loon is fully committed to being a good aviation citizen.

2.5   The Project Loon business model is to partner with local telecommunications companies to augment their infrastructure, bringing needed services to citizens in an innovative way.

3.   NEXT STEPS

3.1   Loon is planning a further series of regional demonstrations, focusing on underserved areas, and is currently developing those partnerships with local telecommunications authorities and carriers.

3.2   Loon is actively seeking working relationships, as outlined in the ICAO State Letter (**Attachment A**) with key Civil Aviation Authorities and Air Navigation Service Providers for overflight Letters of Agreement (LOAs), as well as possible landing sites.

3.3   Loon remains grateful to the many States that have been supporting Project Loon, since its inception.

3.4   CANSO presented a paper to the ICAO 39th Assembly showing its support for the Project Loon. It views the project as directly supporting Sustainable Development Goals (SDGs) Goals 9 and 17 in general and targets 9.2, 17.6, 17.8, ad indicators 17.6.2 ("Fixed internet broadband subscriptions, by speed"), 17.8.1 ("Proportion of individuals using the Internet") and 9.c.3 ("Percentage of population covered by a mobile network, by technology") respectively.

4.   ACTION BY THE MEETING

4.1   The meeting is invited to:

    a) note the intent of Project Loon to support the United Nations Sustainable; Development Goals and ICAO's No Country Left Behind initiative, and
    b) note the Secretary General's State Letter (**Attachment A**), encouraging standardized operational procedures;
    c) cooperate with Project Loon by entering into standardized overflight agreements (called Letters of Agreement) so that Loon can expand its global and regional testing and validation, and,
    d) recognizing the benefits the Internet can bring to the underserved, be an advocate for further understanding with associated State Ministries (e.g., Defence, Communications).

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