



Connect People Everywhere

Global Forum on Emergency Telecommunications (GET-19)
Telecommunication Development Bureau (ITU-D)
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LOON PARTICIPANTS IN GET-19



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BALLOON-POWERED INTERNET



LOON, AN ALPHABET COMPANY



CONNECTIVITY

GREATER COVERAGE

NAVIGATION



THE BALLOON



OUR FLIGHT SYSTEM



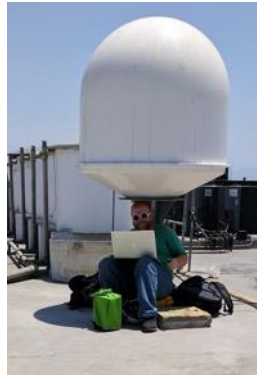
LAUNCHING



LANDING AND RECOVERY

Today's configuration

- *Extends and augments coverage of **partners'** terrestrial network(s)*
- *Direct to handset*
- *Works with standard LTE handsets*
- *Transparent to user*
- *40 km radius*
- *>1 Gbps capacity*
- *Uses **partner** SIMs and core network*



WE SAW STRONG MOMENTUM OVER THE PAST YEAR

“ Loon, however, remains one of the rare Alphabet companies now plotting a clear path toward becoming a viable, self-sustaining venture. ”

“ the next moonshot to make waves ”

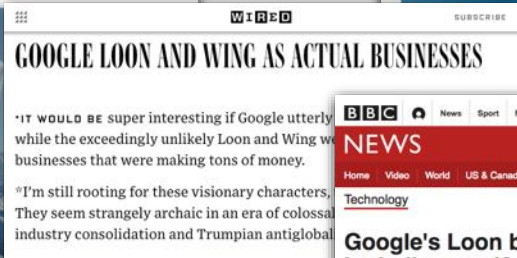


THE VERGE

”

“ they overcame all the things that make the idea of delivering internet access with high-flying balloons not just crazy, but nearly impossible ”

WIRED



TELKOM KENYA HAS CHOSEN LOON TO PROVIDE LTE COVERAGE ACROSS UN-SERVED AND UNDER-SERVED AREAS IN KENYA



“This partnership demonstrates the **Board’s commitment to guide and oversee the transformation of Telkom into a business with a reputation for innovation**, with respect to its product and service offering. This partnership with Loon is also true testament of our resolve to deploy pioneer technologies due to their potential impact on our customers.”

--Mr. Eddy Njoroge, Board Chair, Telkom Kenya:

“This collaboration represents **another important step towards Telkom’s continued quest to provide high-quality, reliable and affordable data offerings to our customers** and we remain focused to bring innovative solutions to the Kenyan market. Our association with Loon will therefore see us endeavor to **pioneer in the use of high altitude balloons to provide LTE coverage across un-served and under-served areas in Kenya. This will greatly improve our network’s availability to our consumers in areas that were initially challenging to service.**”

--Mr. Mugo Kibati, CEO, Telkom Kenya:

**WE SUCCESSFULLY BROUGHT NETWORK
CONNECTION OVER 1000 KM**

Natural Disasters can cause massive damage to telecommunications infrastructure.

Recovery takes weeks while users need immediate service.



Rapid Availability During Terrestrial Outages

Weather Resilient



Balloons flying above weather at 20km. Ground equipment can be stored, moved, mounted.

Power Resilient



Each balloon is solar powered (not reliant on power grid).

Rapid deployment



Balloons launched from Puerto Rico and Winnemucca, Nevada and delivered to serviced regions. No local staff involved for activation or deployment. No shipment of equipment. No logistics

Standard Devices

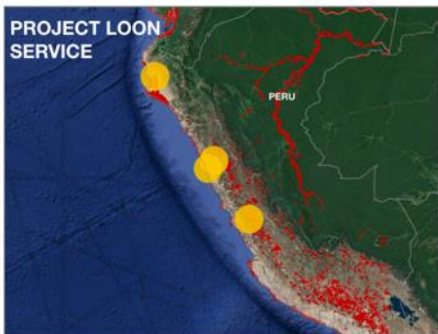


System created to support standard LTE handsets. Since no terminals need to be distributed, end users can quickly, and transparently, connect

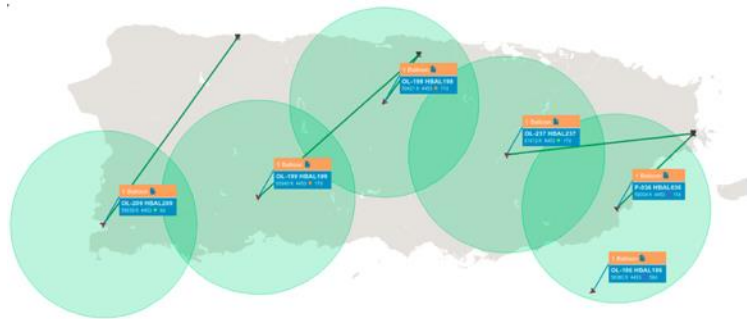
Emergency Deployments: A History of Helping

With minimal advance preparation, Loon can provide supplemental network coverage after a natural disaster. Each balloon covers over 5,000km², from islands to mountains, and can connect thousands of users direct to 4G smartphone.

Telefonica



100,000+ LOON USERS IN PERU



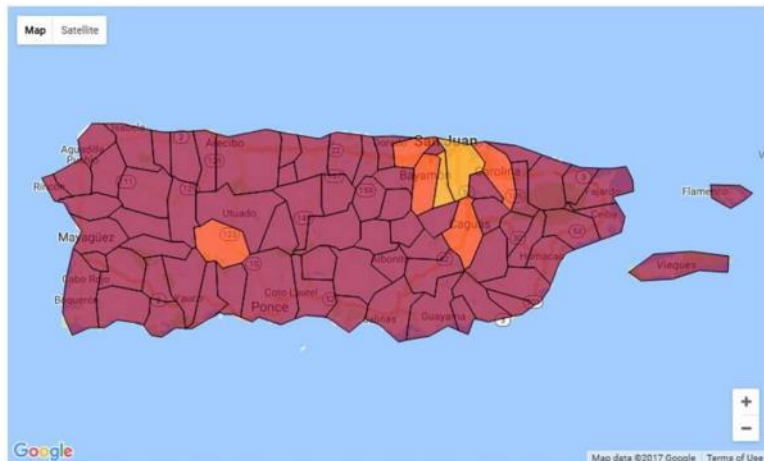
200,000+ LOON USERS IN PUERTO RICO

Confidential

A satellite-style map showing the Pacific Ocean on the left and the western coast of North America on the right. The ocean is dark blue with visible bathymetry. The land is green and brown, showing topography and vegetation. A semi-transparent grey box is overlaid on the bottom left of the image.

Loon passed 600 GB of
data, 200K users

Connectivity: Post-Hurricane



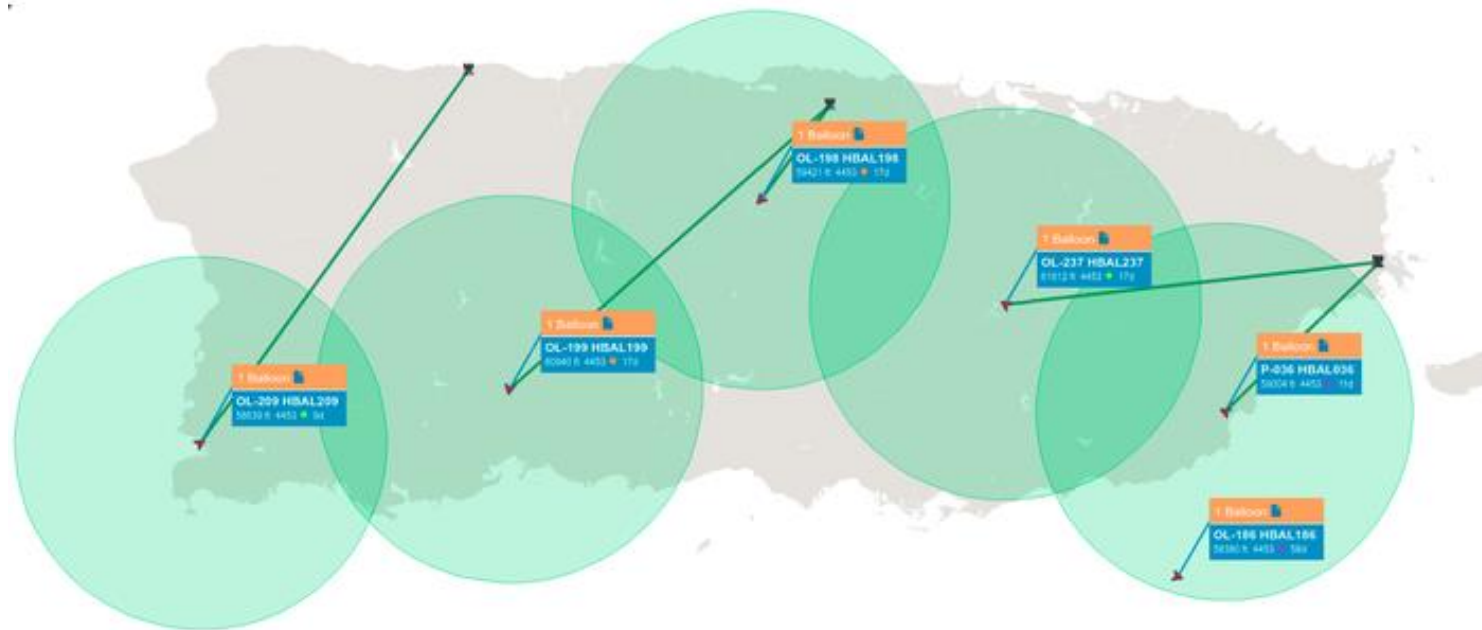
Red = connectivity knocked out as of Friday October 6



Humacao, Puerto Rico

**FCC, Hurricane Maria Communications Status Report, % cell sites down by county*

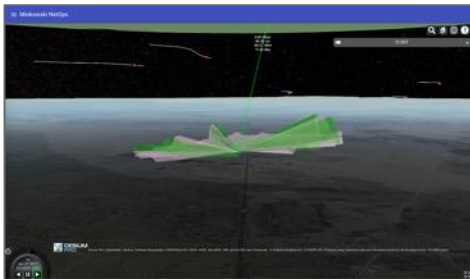
Expedient, Broad Coverage



250,000+ LOON USERS IN PUERTO RICO

Time to Prepare Instead of React

“Cloud”



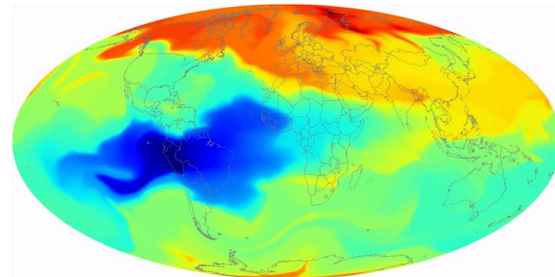
Network Interoperability,
Architecture, & Routing

Ground



Spectrum &
Ground Infrastructure

Sky



Fleet Planning
& Testing



SUSTAINABLE DEVELOPMENT GOALS

1 NO POVERTY

2 ZERO HUNGER

3 GOOD HEALTH AND WELL-BEING

4 QUALITY EDUCATION

5 GENDER EQUALITY

6 CLEAN WATER AND SANITATION

7 AFFORDABLE AND CLEAN ENERGY

8 DECENT WORK AND ECONOMIC GROWTH

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE

10 REDUCED INEQUALITIES

11 SUSTAINABLE CITIES AND COMMUNITIES

12 RESPONSIBLE CONSUMPTION AND PRODUCTION

13 CLIMATE ACTION

14 LIFE BELOW WATER

15 LIFE ON LAND

16 PEACE, JUSTICE AND STRONG INSTITUTIONS

17 PARTNERSHIPS FOR THE GOALS


SUSTAINABLE DEVELOPMENT GOALS

TO RECONNECT AS MANY PEOPLE AS POSSIBLE, AS QUICKLY AS WE CAN





THANK YOU

